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LESIONS OF "ENCEPHALOMYELITIS" AND MULTIPLE SCLEROSIS

VENOUS THROMBOSIS AS THE PRIMARY ALTERATION

TRACY J. PUTNAM, M.D.

BOSTON

The experimental production in animals of venular thrombi scattered throughout the body has been reported by Flexner,[1] Kusama[2] and others following the administration of a great variety of substances. These include homologous and heterologous serum, organ extracts, bacterial filtrates, bacterial suspensions, colloidal materials, fat solvents, and salts of some heavy metals. The thrombi are of various types, some consisting chiefly of agglutinated platelets, others chiefly of stromas, others of strands of fibrin or amorphous material. Evidence has been submitted by Kusama[2] to show that these thrombi may redissolve in the course of time without becoming organized. Hoefer,[3] working at the Neurological Unit, is in the process of repeating the fundamental observations and finds that of the various fractions of heterologous plasma the globulin is most effective in precipitating intravascular clotting (fig. 1), and that of the various organ extracts lung extract of Mills[4] is perhaps the most potent. Campbell and Alexander[5] have produced amorphous capillary and venular thrombi in the brain in experimental local anaphylaxis.

Similar thrombi in both fresh and advanced stages are frequently observed in human pathologic studies, although surprisingly little attention has been paid to them. I have been unable to find any systematic study of them, although they are familiar to every pathologist. They constitute a problem which is entirely different from that of thrombosis in large vessels, such as the heart or aorta, since the flow of blood stops entirely in the venule or capillary once the clot forms. They are therefore apt to lead to necrosis of the vessel wall rather than to organization and recanalization.

Venular thrombi occur particularly in the course of infectious diseases (fig. 2) and indeed are such a commonplace finding that they often escape comment. They have been more thoroughly studied in connection with certain types of nephritis[6] and appear to provoke a chronic inflammatory reaction in the kidney. They have also been reported in late death after carbon monoxide poisoning,[7] and I have found them in a case of nitrous oxide poisoning.

Little attention has been paid to the occurrence of such thrombi in the brain, although it might well be expected that more serious damage should be produced by vascular obstruction there than in any other organ. In the earlier experimental work convulsions, coma and paralyses were regularly reported, but no histologic examination of the nervous system was given. Thrombosis of veins of the white matter, producing demyelination, was reported by Meyer[7] and others in a carbon monoxide poisoning. Hoefer's[3] and Campbell and Alexander's[5] experiments were directed toward a study of the cerebral lesions, and they show that clots are as easily provoked in the central nervous system as in any other organ. Indeed, there is some reason to believe that the tortuosity of the cerebral veins and the slowness of the flow within them predispose them to thrombosis.

THE RESULTS OF VENOUS OBSTRUCTION IN THE BRAIN

The effects of venous obstruction in the central nervous system have been studied experimentally[8] and pathologically in this laboratory. The two sets of observations lead to the same conclusions. The stasis affects the white matter more than the gray. The commonest lesion consists of a swelling and disintegration of myelin upstream along the vein (fig. 3), accompanied in the severer lesions by some swelling and fragmentation of axis cylinders. There is a diffuse proliferation of astrocytes in the vicinity (fig. 4). At a later stage, phagocytes containing products of parenchymal destruction accumulate within the adventitial sheaths of vessels. Occasionally cells resembling lymphocytes are found.

This histologic picture, characterized by the predominance of acute exudative phenomena, changes gradually to one in which cellular activity is almost at a standstill. At most a few phagocytes are found within hypertrophied adventitial meshes. The axis cylinders resume a more normal appearance, and it often becomes difficult to be sure that any are missing. The destroyed myelin is apparently never regenerated, and the rough, indistinct edges of the area of myelin loss gradually become smooth and distinct. The glial fibrosis continues to grow more dense at least up to a year after the insult has occurred.

Read in the Symposium on the Nervous System at the Harvard Tercentenary Celebration, Sept. 15, 1936.

From the Neurological Unit, Boston City Hospital, and the Department of Neurology, Harvard Medical School.

This is the thirteenth of a series of papers based on investigations the expenses of which were defrayed in part by the Multiple Sclerosis Fund of Harvard University.

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THE LESIONS OF VENOUS THROMBOSIS AND THOSE OF "ENCEPHALITIS"

Neuropathologists will recognize at once that the acute lesion which has been described corresponds in all its details with that which is considered characteristic of certain types of "encephalomyelitis"; for example, the postvaccinal and postmeasles forms.[9] In these conditions congestion and thrombosis are almost regularly observed (figs. 5 and 6).[10] Thrombi were present in other organs also in the only case of this type in which I have been able to study them (fig. 2).

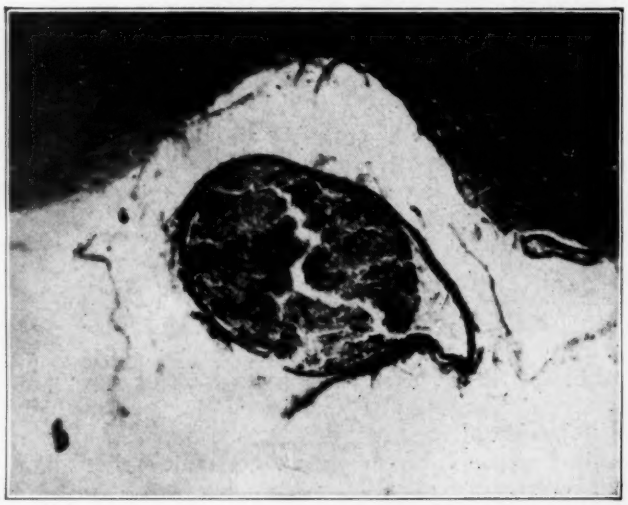

Fig. 1.—Clot in a cerebral venule of a rabbit that died forty minutes after the intravenous injection of lung extract. The clot consists of red cells caught in a dense network of curved strands of fibrin. Mallory's connective tissue stain, low power.

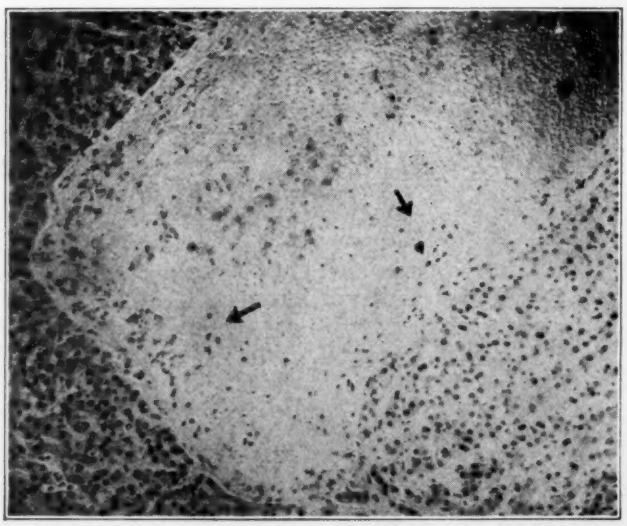

Fig. 2.—Thrombus from the liver of a patient dying from an "encephalitis" following tonsillitis. Arrows indicate invasion by endothelial cells. Mallory's connective tissue stain, low power.

The possibility that postinfectious "encephalomyelitis" is an allergic phenomenon has been suggested by Glanzmann,[11] van Bogaert[12] and others. The onset of the cerebral symptoms coincides with the development of immunity in a striking manner. The relation of allergy to thrombosis and of thrombosis to the cerebral changes places the entire sequence in a clearer light. It also becomes easier to understand why these "encephalitides" occasionally occur in a hemorrhagic form and how they are related to the cerebral lesions produced by toxic substances such as arsphenamine, carbon monoxide and nitrous oxide.

THE RELATION OF VENOUS THROMBOSIS TO MULTIPLE SCLEROSIS

It has long since been pointed out that lesions closely resembling those of the postinfectious "encephalomyelitides" may occur in the course of multiple sclerosis, and a careful comparison of various aspects of the two groups shows that no sharp dividing line can be drawn between them.[13] In both conditions, myelin is more damaged than the axis cylinders and can never regenerate in the central nervous system. The axis cylinders are injured or sometimes entirely destroyed in both diseases. The intensity of destruction of axis cylinders is greater the more severe and abrupt is the onset of the lesion, and it is therefore usually greater in fatal

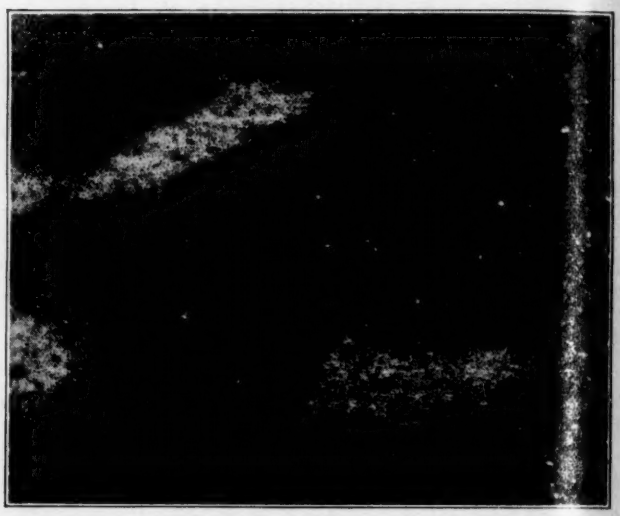

Fig. 3.—Local destruction of myelin fourteen days after experimental obstruction of cerebral venules in a dog. Mallory's connective tissue stain, low power.

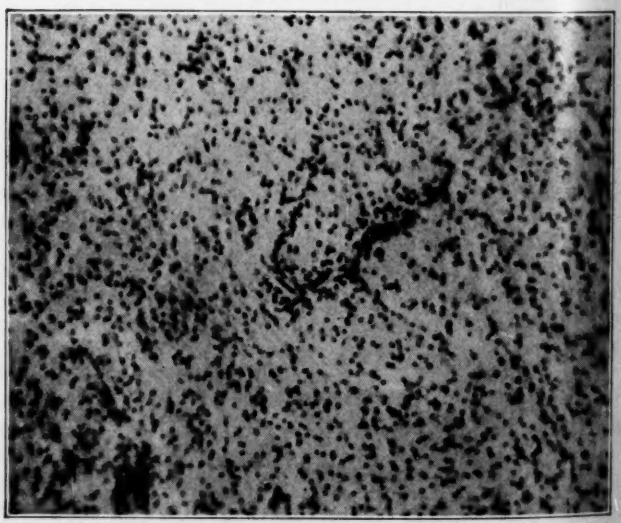

Fig. 4.—Diffuse glial proliferation in the cerebral white matter fourteen days after experimental obstruction of cerebral venules in a dog. Section from the same block as shown in figure 3. Gallocyanin stain, low power.

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cases of "encephalitis" than in some of the mild, chronic lesions of multiple sclerosis. In the majority of sclerotic plaques, however, many axis cylinders are destroyed.[14] A diffuse glial reaction occurs in areas of fresh degeneration in cases of multiple sclerosis, which is entirely comparable to that seen in "encephalomyelitis." At a later stage in both diseases phagocytic cells of various types accumulate about vessels and later still disappear. The glial scarring that gives multiple sclerosis its name is a slow, chronic process which takes place in much the same way in practically all diseases accompanied by loss of myelin; for example, old arteriosclerotic lesions [15] or secondary degeneration.[14] The typical sclerotic plaque is to be regarded, therefore, as a late stage of the lesion of a certain type of "encephalomyelitis."

The theory of the vascular origin of the lesions of multiple sclerosis has recently received support from two unexpected sources. In the first place, Alexander

Fig. 5.—Thrombus in a cerebral vein from a case of postvaccinal "encephalitis." Masses of fibrin enclose red cells. Mallory's connective tissue stain, low power. Compare with figure 1.

and Myerson [16] have shown by means of micro-incineration that a local demineralization is a characteristic feature both of anemic foci and of sclerotic plaques, in sharp contrast to the hypermineralization of inflammatory lesions.

In the second place, Blackman [17] has recently repeated Steiner's work [18] on the occurrence of certain cells which take a specific impregnation with silver in multiple sclerosis and dementia paralytica. Blackman finds that these typical cells occur also in areas of cerebral thrombosis, if the patient has survived a week or more (fig. 7). It appears, therefore, that they represent phagocyted blood pigment rather than fragments of spirochetes, as suggested by Steiner.

This point of view is entirely consistent with the intermittent course of remissions and exacerbations

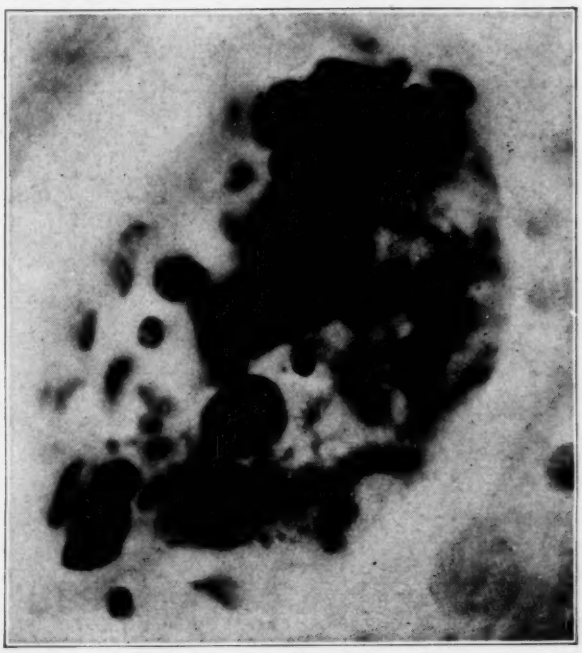

Fig. 6.—Thrombus in a cerebral vein from a case of "encephalitis" following antirabic inoculation. The dark masses apparently represent fibrin. Masson stain, oil immersion lens.

characteristic of multiple sclerosis, and with what is known of the factors precipitating attacks of the disease. In an extensive review of the subject von

Fig. 7.—Typical "silver cells" about a vessel, from a case of cerebellar thrombosis in which the lesion was approximately two weeks old. Steiner's stain, oil immersion.

Hoesslin [19] lists the exogenous circumstances directly preceding exacerbation in 516 cases as follows: injury and accident, 11.4 per cent; pregnancy and labor, 5.8

14. Putnam, T. J.: Studies in Multiple Sclerosis: VIII. Etiologic Factors in Multiple Sclerosis, Ann. Int. Med. **9**: 854 (Jan.) 1936.
15. Alexander, L., and Putnam, T. J.: Cerebral Lesions Due to Vascular Occlusion, Arch. Neurol. & Psychiat., to be published.
16. Alexander, L., and Myerson, A.: The Mineral Content of Various Cerebral Lesions, Studied by the Micro-Incineration Method, Arch. Neurol. & Psychiat., to be published.
17. Blackman, N., and Putnam, T. J.: The Nature of the "Silver Cells" Occurring in Multiple Sclerosis and Other Conditions, Tr. Boston Soc. Psychiat. & Neurol., Arch. Neurol. & Psychiat., to be published.
18. Steiner, Gabriel: Krankheitserreger und Gewebsbefund bei multipler Sklerose, Berlin, Julius Springer, 1931.
19. von Hoesslin, Rudolf: Ueber multiple Sklerose: Exogene Aetiologie Pathogenese und Verlauf, Munich, J. F. Lehmanns Verlag, 1934.

per cent; febrile diseases, 4.2 per cent; overexertion, 3.9 per cent; chilling, 2.3 per cent; fright and emotion, 7.0 per cent, and poisoning, 0.5 per cent.

It is striking that these factors are exactly those which predispose to disturbances of the stability of the blood plasma and to thrombosis.[20] Simon and Solomon [21] have shown that the blood of patients with multiple

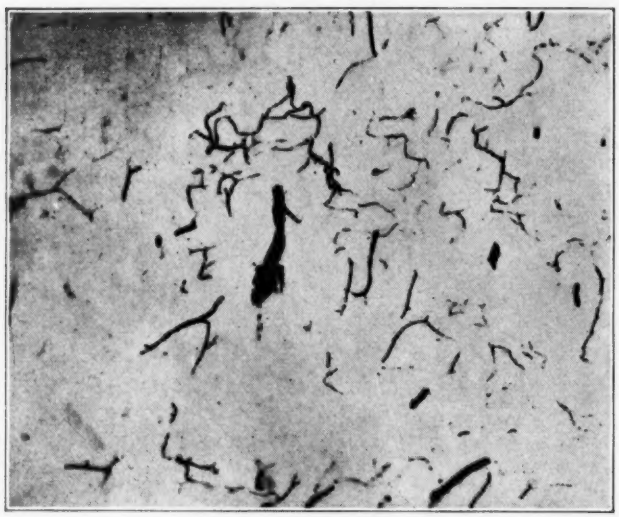

Fig. 8.—Typical distorted vessel surrounded by a ring of congested capillaries from an old plaque of multiple sclerosis. From a brain the blood vessels of which were injected with india ink after removal from the skull. Low power.

sclerosis shows an abnormal tendency to coagulation following the administration of adrenal extract or of typhoid vaccine.

Thrombi are found less often in cases of multiple sclerosis than in cases of "encephalomyelitis," doubtless because most of the lesions are older; but they could be demonstrated in five of fourteen cases.[22] Other

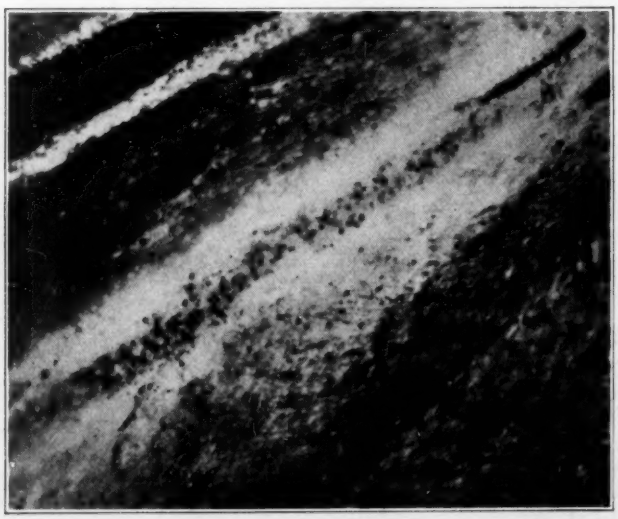

Fig. 9.—Multiple sclerosis. A necrotic vein, devoid of lumen in this and adjacent sections, lies in a zone of demyelination. A congested vein is seen in the upper left corner. Masson stain, high power.

evidences of vascular obstruction, such as perivascular accumulation of blood pigment and engorgement and tortuosity of vessels, are common, however (figs. 8 and 9). Thrombi also occur in other organs in cases of multiple sclerosis, usually without causing lesions.[22] Further reasons have been given elsewhere for considering that the thrombi are primary to the other changes in the lesion and not secondary.[22]

20. Pickering, J. W.: The Blood Plasma in Health and Disease, New York, Macmillan Company, 1928.

21. Simon, Benjamin, and Solomon, Philip: Multiple Sclerosis: Effect of Typhoid Vaccine and of Epinephrine on Coagulation of Blood, Arch. Neurol. & Psychiat. **34**: 1286 (Dec.) 1935.

22. Putnam, T. J.: Evidences of Vascular Occlusion in Multiple Sclerosis, Arch. Neurol. & Psychiat., to be published.

SUMMARY

Many of the factors that may lead to a diffuse thrombosis of small veins throughout the body correspond with the recognized antecedents of certain types of "encephalomyelitis" and the onset or exacerbation of some cases of multiple sclerosis. In both these groups of disease, thrombi and other evidences of vascular occlusion are found in relation to the characteristic lesions and in other organs of the body. These lesions correspond closely to the results of experimental and spontaneous occlusion of veins.

It seems probable, therefore, that the primary alteration in certain types of "encephalomyelitis" and multiple sclerosis is an abnormal lability of the blood plasma, which may be caused to clot in venules of the brain (and other organs) by a variety of exogenous (and probably also endogenous) factors.

MECKEL'S DIVERTICULUM

ASSOCIATED WITH INTUSSUSCEPTION AND ADENOCARCINOMA OF ECTOPIC GASTRIC MUCOSA: REPORT OF CASE

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That there is a persistence of the proximal end of the yolk stalk to form a pouch at its point of union with the intestine in approximately 3 per cent of all individuals has been widely recognized. This pouch is usually referred to as "Meckel's diverticulum" and is a structure of clinical importance because of the rôle it may play in producing intestinal obstruction. Benign ulcerating processes in ectopic gastric mucosa have been described with relative frequency and have been incriminated occasionally as the source of intestinal hemorrhage. The development of malignant lesions in the ectopic gastric mucosa of a Meckel's diverticulum is extremely rare, and for this reason we felt that it was justifiable to report such an incident. So far as we have been able to determine, carcinoma of Meckel's diverticulum has been reported in a limited number of cases. According to Franke,[1] Jores noted a primary carcinoma of the cylindric epithelium of a Meckel's diverticulum and reported this in 1899. Oberndorfer [2] cited one case in 1907, and other instances of this condition have been noted by Schaetz [3] (1925), and by Hertzog and Carlson [4] (1935).

From the Division of Surgery (Dr. Gray) and the Section on Pathologic Anatomy (Dr. Kernohan), the Mayo Clinic.

1. Franke, K.: Ueber ein primäres Carcinoma in einem Meckelschen Divertikel, Ztschr. f. Krebsforsch. **39**: 206-216, 1933.

2. Oberndorfer, Siegfried: Karzinoide Tumoren des Dünndarms, Frankfurt. Ztschr. f. Path. **1**: 426-432, 1907; Ueber die kleinen Dünndarmcarcinome, Verhandl. d. deutsch. path. Gesellsch. **11**: 113-116, 1907.

3. Schaetz, Georg: Beiträge zur Morphologie des Meckel'schen Divertikels (Ortsfremde Epithelformation im Meckel), Beitr. z. path. Anat. u. z. allg. Path. **74**: 115-224, 1925; Die Magenepithel-Heterotopien des menschlichen Vorderdarms: Zugleich ein Beitrag zum Vorkommen von Magenschleimhaut in Meckelschen Divertikeln, Virchows Arch. f. path. Anat. **241**: 148-218, 1923.

4. Hertzog, A. J., and Carlson, L. A.: Carcinoid of Meckel's Diverticulum: Report of Two Cases, Arch. Path. & Lab. Med. **20**: 587-589 (Oct.) 1935.

REPORT OF CASE

A married woman, aged 37, registered at the Mayo Clinic on Nov. 22, 1933, complaining of vague abdominal pains that had been present at intervals since the birth of her first child, six years previously. The pain had occurred in the epigastrium, in the lower part of the abdomen, particularly on the right, and in the lower part of the back. There seemed to be no relationship to any factor in her daily routine, and there had not been any associated nausea or vomiting. The patient had eliminated fried foods from her diet because she thought they might be deleterious, and not because of qualitative food distress. It was impossible to obtain a satisfactory description of her symptoms. That chronic nervous exhaustion played an important rôle was apparent, but her general appearance strongly suggested organic disease. The systemic history otherwise was essentially negative.

Fig. 1.—Meckel's diverticulum; proximal third is composed of normal ileac mucosa, middle third consists of gastric mucosa (one may note the "cobblestone" appearance) and the distal third is the site of an ulcerating carcinoma on which an exudate may be seen.

Her father had died from stroke; otherwise the family history was essentially negative. She had been married seven years; her husband was alive and well, as were their three children. The patient's menstrual periods had always been irregular, but there had not been any menorrhagia.

Physical examination revealed a systolic blood pressure of 122 mm. and a diastolic pressure of 80 mm. of mercury. The patient was a well developed, somewhat undernourished woman who weighed 98 pounds (44.5 Kg.). There was nearly complete diastasis recti abdominis. She had been operated on in 1928, at which time an appendectomy, a partial right oophorectomy and freeing of adhesions had been performed. There was slight tenderness over the right costal margin, and tenderness and a small mass (3 by 1.5 cm.) were noted in the right lower quadrant of the abdomen. The uterus was moderately enlarged and nodular and had pushed the cervix backward. There was an egg-shaped mass about 5 cm. in diameter in the ileocecal region.

Analysis of a passed urine specimen revealed a specific gravity of 1.036, an acid reaction, a moderate amount of albumin, hematuria grade 4 (the patient was menstruating) and only a slight amount of pus. The value for the hemoglobin was 12.6 Gm. for each 100 cc. of blood. The erythrocytes numbered 3,910,000 and the leukocytes 5,400 per cubic millimeter of blood. The Wassermann reaction on the blood serum was negative. The sedimentation rate was 4.5 mm. in half an hour, 14 mm. in one hour and 40 mm. in two hours. Roentgenologic examination of the thorax, stomach, kidneys, ureters and bladder did not reveal any abnormality. There was some deformity of the coccyx. Roentgenologic examination showed that the gallbladder was functioning normally. A roentgenogram of the colon revealed a filling defect involving the ileocecal region at a point that coincided with the position of the palpable mass. The roentgenologist made the note that the changes suggested an extraluminal mass.

Operation was performed Dec. 4, 1933. Exposure through a low midline incision revealed an intussusception of the terminal portion of the ileum, about 14 to 16 inches (35 to 40 cm.) above the ileocecal juncture. The ileocecal region was essentially normal. A portion of bowel that had become invaginated for approximately 8 cm. was easily reduced. When this was accomplished, it was seen that a second intussusception had occurred in a portion of tissue, which appeared to be a large Meckel's diverticulum. The diverticulum extended at right angles to the wall of the ileum for approximately 5 cm.; it was 2.5 cm. in diameter at the base and about 5 cm. long. At the tip, a portion of the mesentery of the diverticulum had become intussuscepted into the bowel. It was impossible to reduce this, and a segmental resection of the ileum was performed by making an end-to-end anastomosis. In order to insure an adequate lumen of the bowel, an entero-anastomosis was made about 8 inches (20 cm.) from the end-to-end anastomosis. Pelvic examination revealed that the right ovary was somewhat small but otherwise normal. The left ovary was slightly cystic. The uterus was apparently normal. The upper portion of the abdomen was not explored.

The convalescence following this procedure was uneventful, and the patient was able to leave the hospital on the sixteenth postoperative day. Final surgical dismissal was granted on the nineteenth postoperative day. At this time the wound had healed and the general condition of the patient was good.

A letter received from the patient a year later stated that she had not had any severe pain in the region of the operative wound but that she had "a slight discomfort in the right side at times."

Examination of the tissue removed at operation revealed about 3 cm. of ileum. Arising from the middle of this was a Meckel's diverticulum which was 5 cm. long. This had a prominent mesentery, which had become herniated into the ileum along with the inverted diverticulum. The specimen was opened and a fungus-like mass was found to occupy the distal third of the diverticulum (fig. 1), while the middle third had a peculiar granular or cobblestone appearance similar to that which is frequently seen in the wall of the stomach. The proximal third was lined by mucosa of normal ileum. The tissue had been fixed in 10 per cent solution of formaldehyde, and histologic preparations were subsequently made and stained with hematoxylin and eosin and also with the mucicarmine method for mucus.

The mucosa of the ileum and the proximal third of the diverticulum was normal. At the base of most of the glands there were typical Paneth cells with their eosinophil granules. The stroma was edematous and contained some lymphocytes. The muscularis mucosae and the muscle layers were intact and

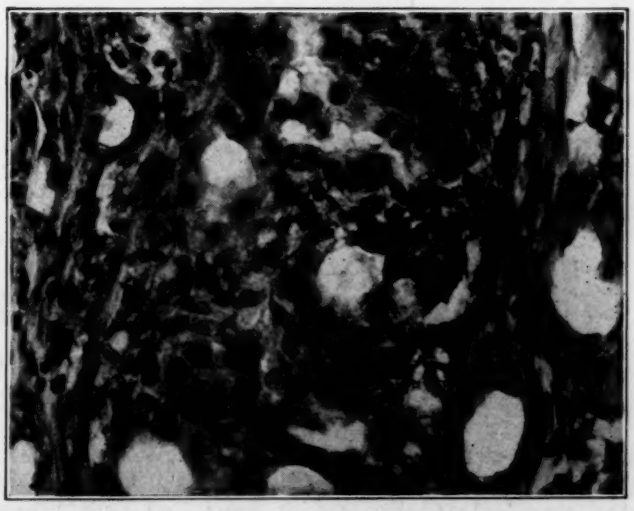

Fig. 2.—Adenocarcinoma involving surrounding tissues; specimen stained with hematoxylin and eosin; slightly reduced from a photomicrograph with a magnification of 350 diameters.

normal except for the presence of slight edema. In the mucosa at the junction of the proximal and middle thirds there was a marked change in the character of the glands and epithelium. The glands were less simple; epithelial cells that contained mucus were not present and there were no Paneth cells. The microscopic appearance was typical of gastric mucosa, except that there were no parietal cells and there was a chronic diffuse inflammation throughout the mucosa. This inflammation was limited to the stroma, while the epithelium of many of the glands was hyperplastic and the glands themselves were irreg-

ular, dilated and tortuous. The muscularis mucosae and the muscular walls of the diverticulum were normal. The histologic appearance of the middle third of the diverticulum was similar to the portion just described. The mucosa was identical to gastric mucosa in which there is an advanced, diffuse, chronic gastritis. Where the inflammation did not directly affect the epithelial cells they were hyperplastic and mitotic figures were common. The entire epithelium was intact and no ulceration was present. The mucosa of the distal third of the diverticulum was much thicker than that of the middle third, and the superficial portion was ulcerated and covered with a layer of fibrin that contained polymorphonuclear cells. The underlying epithelium was very hyperplastic; the nuclei were large and contained prominent nucleoli. Mitotic figures were numerous (fig. 2). In some regions the cells were arranged in the form of glands, which were irregular, tortuous or dilated (fig. 3), while in most places no definite glandular arrangement of the cells was present. The cells were scattered diffusely throughout the stroma and in many places they had grown through the muscularis mucosae. In a few places they had extended down to, and in one or two places they had actually invaded, the muscular wall of the diverticulum (fig. 3). They had not penetrated to the peritoneum. Along with the downgrowth of the epithelium there was a chronic inflammation extending from the ulcerated surface of an adenocarcinoma (fig. 4). The carcinoma was identical with slowly growing adenocarcinomas of the stomach. The entire middle third of the diverticulum consisted of chronically inflamed heterotopic gastric mucosa. This portion gradually merged into the distal third, which was the site of an adenocarcinoma. (We are unaware of any case described in the literature in which an annular heterotopic gastric tissue occupied the middle third of the diverticulum while the proximal and distal thirds were composed of iliac mucosa.) Moreover, there was a gradual transition between the heterotopic gastric mucosa and the carcinoma at the tip. In stomachs in which carcinoma is present there is usually a chronic diffuse gastritis associated with a marked hyperplasia of the gastric mucosa. The histologic observations in this case were identical with those usually occurring in cases of carcinoma of the stomach.

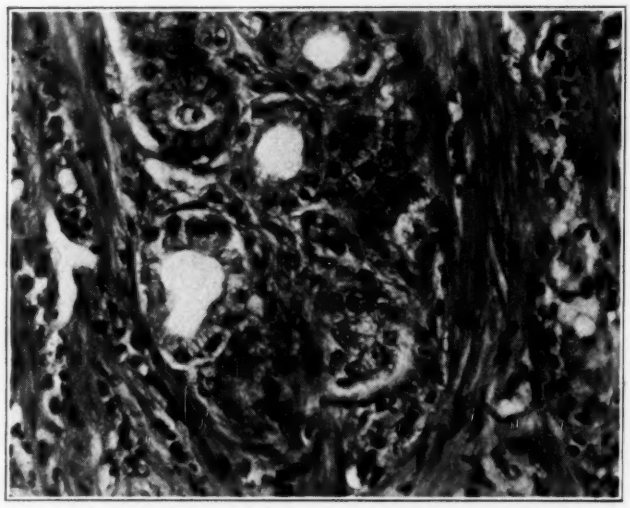

Fig. 3.—Adenocarcinoma, grade 2, invading the muscle of the diverticulum; specimen stained with hematoxylin and eosin; slightly reduced from a photomicrograph with a magnification of 325 diameters.

COMMENT

Heterotopic gastro-intestinal tissue has often been found in Meckel's diverticula. Frequently, heterotopic gastric mucosa has become ulcerated and has produced hemorrhages, and perforation occasionally has resulted and has led to fatal peritonitis. This subject has recently been the basis of an excellent review by Schullinger and Stout,[5] who also describe an adenoma of Meckel's diverticulum that was composed of gastric and duodenal mucosa. This adenoma was not malignant.

Carcinoid tumors occasionally have been found in Meckel's diverticula and there are numerous reviews of these in the literature. We have had an opportunity to examine two such tumors, which have been described by Hertzog and Carlson of the clinic. The gross and microscopic appearance of these small tumors is characteristic. They are found most commonly in the appendix and small intestine. Several that have been observed have become malignant and have metastasized to the mesenteric lymph nodes and liver. However, the metastatic tumors retain most of the characteristics of the original growth and are readily distinguished from most other types of carcinoma.

The case we have described seems to us to be unique in that the diverticulum was removed while the carcinoma was sufficiently small to allow us to observe the origin of the carcinoma from the heterotopic gastric mucosa. The portion of the heterotopic tissue that had not been replaced by carcinoma was typical of gastric mucosa. There was chronic diffuse inflammation throughout the mucosa and the epithelium was hyperplastic, while the glands were tortuous and irregular. The hyperplastic appearance suggested a precancerous condition, which is often seen in cases of chronic gastritis.

A survey of the literature on neoplasms of Meckel's diverticula reveals that most tumors are carcinoid tumors, although several sarcomas of various types have been observed. A few adenocarcinomas have been reported. Wiseley[6] (in 1931) found an adenocarcinoma of Meckel's diverticulum while exploring the abdomen prior to the repair of a hernia. The wall of the diverticulum was nodular and thickened down to and including the wall of the small intestine. The involved portion of this intestine was resected. The diagnosis was a medullary carcinoma. No metastasis was found at necropsy. In 1932 Michael and Bell[7]

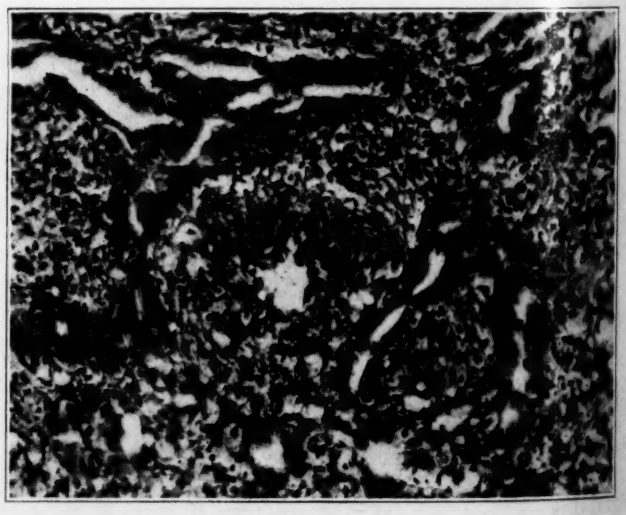

Fig. 4.—Adenocarcinoma in which cells are attempting to form glands which are irregular and are spreading through the muscularis mucosae; one may note the hyperplastic epithelium. Specimen stained with hematoxylin and eosin; slightly reduced from a photomicrograph with a magnification of 210 diameters.

5. Schullinger, R. N., and Stout, A. P.: Meckel's Diverticulum, Arch. Surg. **28**: 440-466 (March) 1934.

6. Wiseley, A. N.: Medullary Carcinoma of Meckel's Diverticulum, J. A. M. A. **96**: 1949-1950 (June 6) 1931.

7. Michael, Paul, and Bell, H. G.: Primary Adenocarcinoma Arising in a Meckel's Diverticulum, Surg., Gynec. & Obst. **54**: 95-97 (Jan.) 1932.

described an adenocarcinoma of the ileum, which originated in a Meckel's diverticulum. The carcinoma had extended through the muscularis mucosae into the outer wall of the diverticulum and adjacent ileum, and according to the description it appeared to be a highly malignant growth. The patient recovered following a resection and no mention of further extension or metastasis was made. Franke in 1933 reviewed the literature and reported an additional case in which an adenocarcinoma of a Meckel's diverticulum had extended through the intestinal wall and into the peritoneal cavity. Most of the carcinoma was necrotic, but in some places mucus-containing glands were present. There was no mention of metastasis to mesenteric lymph nodes or to the liver. The same year Brown [8] described a case in which a mass was attached to the ileum. There was no mention of the presence of a Meckel's diverticulum and the description was not typical of an adenocarcinoma, but the tumor could be considered a sarcoma. The tissue was not examined for mucus.

In none of these cases was there any mention of heterotopic tissue in the Meckel's diverticulum; however, it is possible that one or more of these carcinomas arose from preexisting heterotopic tissue and that when the neoplasm had grown to sufficient size to produce symptoms it had completely destroyed the tissue from which it arose.

SUMMARY

In a case of intussusception of the terminal portion of the ileum there was a second intussusception, which was an inverted Meckel's diverticulum. The distal two thirds of the mucosa lining this diverticulum consisted of heterotopic gastric mucosa. Examination of this mucosa revealed chronic inflammation. The distal third of the heterotopic gastric mucosa had been replaced by an adenocarcinoma, grade 2 on a basis of 4. Ulceration and infection of the carcinoma had occurred and the tumor had grown through the muscularis mucosae but had not extended to the peritoneum. The patient recovered and was living one year after removal of the tumor and there was no evidence of metastasis. This was a unique case in that the diverticulum was removed during the early growth of the carcinoma before it had destroyed the heterotopic gastric mucosa from which it arose.

8. Brown, Rexwald: Carcinoma of Meckel's Diverticulum, S. Clin. North America **13**: 1283 (Dec.) 1933.

Trust Them Not, Young Man.—But the young doctor, the new doctor, in a gossipy house, must never be off his guard. He has seen and prescribed for his patient and has said all that need be said to the friends; and there is tea, and what seems a favorable opportunity for extending the practice. Trust them not, young man: put your fingers in your ears, and flee from the City of Destruction of Reputations. If you must stay, do not stay long, and keep the door of your lips. Talk of the patient, of the weather or of the proposition, which will as surely as the bread and butter be handed to you, that there is a good deal of illness about. Avoid all topics of Church and State, quote neither poetry nor prose, give neither censure nor approval to music and the drama, hide your liking for any art but your own. Leave behind you, for gossip to lap, a saucerful of the milk of human kindness. Never mind about producing a favorable impression; produce this one impression, that you know your work, and that it will not be your fault if the mixture fails to relieve the patient upstairs: and then flee.—Paget, Stephen: Confessio Medici, New York, Macmillan Company, 1931.

ANTIPNEUMOCOCCUS RABBIT SERUM AS A THERAPEUTIC AGENT IN LOBAR PNEUMONIA

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Antipneumococcus serum is at present the only specific therapeutic agent useful in the treatment of lobar pneumonia. The first conclusive evidence of the effectiveness of specific serum in type I pneumococcus pneumonia was brought by studies made in the Hospital of the Rockefeller Institute in 1912-1913.[1] During the twenty-four years since the publication of this report the value of type I antipneumococcus serum has been conclusively proved by studies in this hospital,[2] and these results have been confirmed and extended by numerous workers.[3]

In type II pneumococcus pneumonia the value of antipneumococcus serum is somewhat less definite, but the reports of Bullowa,[4] Cecil and Plummer,[5] Finland and Sutliff [6] and Finland and Dowling [7] indicate that the mortality rate may be reduced by the early administration of adequate amounts of serum.

The results of specific serum therapy in type VII and type VIII pneumococcus pneumonias have been favorable although perhaps not quite as satisfactory as in the case of type I.[8]

Since its introduction, therapeutic type-specific antipneumococcus serums have been produced by immunization of horses. Although, as has been stated, its use has been attended with good results in a number of different types of pneumococcic pneumonia, it has always possessed certain inherent characteristics that have not been entirely desirable. These are:

1. Antipneumococcus horse serums rarely possess high mouse protective titers. On the average raw type I antipneumococcus horse serum contains approximately 500 mouse protective units per cubic centimeter. An occasional animal may produce serums of twice this potency, but this is uncommon. Since the amount of antibody is not great and since large amounts of antibody are necessary for the treatment of pneumonia, it has been useful to employ concentration methods. Because of technical procedures involved, concentration has added materially to the final cost of serum.

2. Intravenous injections of antipneumococcus horse serum occasionally cause anaphylatic or anaphylactoid reactions and,

From the Hospital of the Rockefeller Institute for Medical Research.

1. Cole, Rufus: Treatment of Pneumonia by Means of Specific Serums, J. A. M. A. **61**: 663 (Aug. 30) 1913.

2. (*a*) Cole, Rufus: Serum Treatment in Type I Lobar Pneumonia, J. A. M. A. **93**: 741 (Sept. 7) 1929; (*b*) Ann. Int. Med. **10**: 1 (July) 1936. (*c*) Abernethy, T. J.: New York State J. Med. **36**: 627 (April 15) 1936.

3. Cecil, R. L., and Sutliff, W. D.: The Treatment of Lobar Pneumonia with Concentrated Antipneumococcus Serum, J. A. M. A. **91**: 2035 (Dec. 29) 1928. Bullowa, J. G. M.: Bull. New York Acad. Med. **5**: 328 (April) 1929. Cecil, R. L., and Plummer, Norman: Pneumococcus Type I Pneumonia, J. A. M. A. **95**: 1547 (Nov. 22) 1930. Sutliff, W. D., and Finland, Maxwell: Type I Lobar Pneumonia Treated with Concentrated Pneumococcic Antibody (Felton), ibid. **96**: 1465 (May 2) 1931; New England J. Med. **210**: 237 (Feb. 1) 1934. The Serum Treatment of Lobar Pneumonia, Committee of the Medical Research Council, Brit. M. J. **1**: 241 (Feb. 10) 1934. Finland, Maxwell: Am. J. M. Sc. **192**: 849 (Dec.) 1936. Bullowa,[4] Lord and Heffron.[5]

4. Bullowa, J. G. M.: Use of Pneumococcic Refined Serum in Lobar Pneumonia, J. A. M. A. **90**: 1354 (April 28) 1928.

5. Cecil, R. L., and Plummer, Norman: Pneumococcus Type II Pneumonia, J. A. M. A. **98**: 779 (March 5) 1932.

6. Finland, Maxwell, and Sutliff, W. D.: The Specific Serum Treatment of Pneumococcus Type II Pneumonia, J. A. M. A. **100**: 560 (Feb. 25) 1933.

7. Finland, Maxwell, and Dowling, H. F.: Am. J. M. Sc. **191**: 658 (May) 1936.

8. Finland, Maxwell; Tilghman, R. C.; Ruegsegger, J. M., and Dowling, H. F.: Am. J. M. Sc. **193**: 59 (Jan.) 1937. Bullowa, J. G. M., ibid. **190**: 65 (July) 1935; Therapeutic Pneumonococcus Type VIII (Cooper) Serum, J. A. M. A. **102**: 1560 (May 12) 1934.

although these can usually be counteracted by the judicious use of epinephrine, they are objectionable.

3. Chill reactions, as distinguished from anaphylactoid reactions, commonly follow the injection of antipneumococcus horse serum. These are generally not dangerous but they are distressing to the patient. The use of concentrated horse antiserum has considerably decreased the incidence of these chill reactions but, even with concentrated serum, chills are encountered in about 15 per cent of the cases.[9]

4. Serum sickness develops during convalescence in a very high percentage of patients treated with antipneumococcus horse serum. The use of concentrated horse serum has decreased the incidence of serum sickness somewhat, but in a recent paper Abernethy [2] reported its occurrence in 68 per cent of his cases.

5. It is generally believed that horse antiserum does not reduce the incidence of empyema in pneumonia. Once pleural fluid becomes infected, no amount of horse antiserum will affect the subsequent course of the exudate. In a search of the literature we have been unable to find any evidence indicating that horse serum antibody has been demonstrated in pleural fluid after intravenous injection. Sabin [10] attacked this problem directly and was unable to demonstrate antibody in the pleural fluid from five patients shown to have circulating type-specific antibody.

During a series of studies directed toward the numerous differences between type I antipneumococcus serums of many mammalian species, it became apparent that the use of antipneumococcus rabbit serum might afford a means of circumventing some of the less desirable characteristics of antipneumococcus horse serum. Type I antipneumococcus rabbit serum has been shown to differ in more than thirty distinct immunologic characteristics from type I antipneumococcus horse serum.[11]

The more significant characteristics of antipneumococcus rabbit serum which have served as a rationale for its trial in the therapy of lobar pneumonia are as follows:

1. Unconcentrated rabbit antiserum has a relatively high mouse protective potency as compared with horse antiserum. Immune rabbit serum contains approximately 200 protective units per milligram of protein specifically precipitable by the homologous pneumococcus capsular polysaccharide, whereas most horse antiserums contain only about 90 units.

2. The rabbit antibody is of relatively small size as compared with the horse antibody. From the results of a number of recent investigations, it now appears quite definite that the antibody from horse serum is at least from three to four times larger than the antibody from rabbit serum. This has been demonstrated both by ultrafiltration [12] and by ultracentrifugation.[13] Other factors being constant, the smaller the antibody the more effective should be the penetration into infected tissues.

3. Protection fails entirely when greater than optimum amounts of horse antiserum are used in the mouse protection test. This prozone phenomenon does not occur with immune rabbit serum.[14]

4. The mouse protective action of horse antipneumococcus serum is inhibited by physiologic amounts of cholesterol and cephalin. The addition of these lipids to rabbit antipneumococcus serum does not affect its protective action.[15]

5. The immunization of horses is uncertain and slow as compared with the ease and rapidity with which rabbits can be immunized. Not every horse produces serum of useful potency and, in general, immunization requires a period of six months or more. Almost 100 per cent of rabbits produce antiserum of high potency after immunization with type I pneumococci. By intensive immunization it is possible to obtain in as short a time as four weeks serum containing about 2,000 mouse protective units per cubic centimeter. On the other hand, unconcentrated horse serum averages about 500 units per cubic centimeter. There is reason to believe that, with other types of pneumococci, rabbits are much more readily immunized than are horses.

6. It would seem from the best estimates available that, on the basis of equivalent amounts of protective antibody, unconcentrated rabbit serum costs approximately one fifth as much as concentrated horse serum.

Because of these considerations, unconcentrated type specific rabbit serum has been used in the treatment of lobar pneumonia in the Hospital of the Rockfeller Institute during the past twelve months. A preliminary note as to the reasons for its trial has already appeared.[16] The results obtained in the treatment of twenty-two cases form the subject of this paper.

PREPARATION OF TYPE SPECIFIC RABBIT ANTIPNEUMOCOCCUS SERUMS

Rabbits weighing from 3 to 5 Kg. were immunized by the intravenous injection of suspensions of pneumococci treated with formaldehyde. The precise method of immunization need not be detailed but in general the plan involved intensive courses, frequently repeated, so that high antibody titers would be achieved in a short period of time. Blood was collected with aseptic technic by cardiac puncture, 50 cc. being withdrawn from each rabbit every two weeks. Antibody titers were maintained by additional intravenous injections of pneumococcus suspensions after each bleeding. The serum from rabbits immunized with a single type was pooled and filtered through a Berkefeld V candle. Merthiolate to a final concentration of 1:10,000 was added and the serum stored in the icebox until a considerable quantity had been collected. It was then heated to 56 C. for thirty minutes and after cooling was absorbed with washed sterile kaolin. Absorption was carried out for fifteen hours at 4 C., 5 Gm. of kaolin per hundred cubic centimeters of serum being used. After separation of the kaolin by centrifugation the serum was again filtered through a Berkefeld V candle and filled into vials of suitable size. The usual sterility and toxicity tests were carried out.

ADMINISTRATION OF SERUM

Immediately after the patient's admission the diagnosis was confirmed by x-ray examination and the type of pneumococcus in the sputum was determined by the Neufeld reaction. Subsequently the typing was confirmed by mouse inoculation.

Before therapeutic intravenous administration of serum, all patients were tested for sensitivity to rabbit serum in a routine way by three methods:

1. *Intradermal Test.*—One-tenth cubic centimeter of a 1:10 dilution of normal rabbit serum in physiologic solution of sodium chloride was injected intradermally. This was controlled by a corresponding injection of saline solution. All patients have reacted positively. In many this reaction appeared as a small and transient erythematous patch, while in a few cases there developed a blanched wheal with circumferential erythema. It was found that none of these positive reactions were significant as an indication of sensitivity to rabbit serum injected intravenously.

2. *Conjunctival Test.*—One-tenth cubic centimeter of a 1:10 dilution of normal rabbit serum in physiologic solution of sodium chloride was instilled into one conjunctival sac. None of the patients tested showed a positive reaction, as evidenced by injection of the conjunctival vessels, itching or lacrimation.

3. *Intravenous Test.*—One-tenth cubic centimeter of the type-specific antipneumococcus rabbit serum to be used was diluted with 5 cc. of saline solution and injected intravenously. A

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positive reaction with this test consists of a fall in arterial blood pressure and an increase in pulse rate within five minutes. No positive reaction has been observed in any case in this series.

Following a negative reaction to the intravenous test the administration of serum was begun. In the first few cases 2 cc. of serum diluted to 20 cc. with saline solution was given initially, and the volume of serum

TABLE 1.—*Type I Antipneumococcus Rabbit Serum Therapy in Type I Pneumococcus Pneumonia*

Case No.	Yrs.	X-ray	WBC thousands	Bacteremia colonies per cc.	Pleural exudate *	First serum after onset, hours	Crisis after first serum, hours	Serum cc.	Result ✦
1	♂ 57		12.3	62	+	63	95	112	R
2	♀ 36		6.6	4	●	101	24	115	R
3	♂ 30		3.9	1	0	15	39	220	R
4	♂ 8		22.0	0	0	39	12	32	R
5	♂ 54		12.3	1	0	44	10	160	R
6	♂ 29		18.3	<1	0	47	15	117	R
7	♂ 46		19.4	0	●	30	14	140	R
8	♀ 39		16.4	3	0	34	14	140	R
9	♂ 43		25.6	<1	0	35	6	90	R
10	♀ 50		16.4	<1	●	14	5	120	R
Average						42	23	124	

* + Infected ● Sterile ✦ R Recovered D Died

was then doubled every two hours until from 30 to 40 cc. of undiluted serum was given at each injection. Later it was found that a greater increment could be used and that the administering of serum at intervals of forty minutes produced a more rapid drop in temperature. In the last few cases an attempt has been made to give an adequate therapeutic amount of serum at one injection. No symptoms whatever have followed the intravenous administration of 125 cc. of undiluted serum over a period of ten minutes.

The first therapeutic injections of rabbit serum were not infrequently followed by chill reactions of the delayed type. These reactions occurred from forty-five to sixty-five minutes after administration of the serum. A chill occasionally followed the second and rarely the third injection. After these initial chills a refractory period occurred and chills did not result from additional serum unless it became necessary to change to a different lot. It has been found that heating the serum to 56 C. for thirty minutes and adsorbing with sterile kaolin reduces considerably the amount of the chill producing substances. The simultaneous oral administration of 0.9 Gm. of acetylsalicylic acid with the first injection of serum has prevented practically all chill reactions in the last few cases.

TYPE I PNEUMOCCOCUS PNEUMONIA

Ten patients with type I pneumococcus pneumonia have been treated with unconcentrated type I antipneumococcus rabbit serum. The more important data are summarized in table 1. Eight of the ten patients had bacteremia on admission and one had a pleural exudate grossly infected with type I pneumococcus. Four of the ten patients entered the hospital with consolidation of two or more lobes and two of the four had bilateral consolidation. Two patients were sufficiently ill to necessitate treatment in the oxygen chamber. Pneumonia had been present for an average of forty-two hours before type I rabbit serum therapy was begun. The administration of serum was carried out over an average period of nineteen hours in the ten cases. The total unconcentrated serum dosage averaged 124 cc. per case, or 248,000 units. The temperature, pulse and respiratory rates came to normal by crisis in an average of twenty-three hours after the institution of serum therapy or sixty-five hours from the beginning of the disease. Skin tests with type I capsular polysaccharide were positive at the time of the critical fall in temperature in seven of the ten patients. In two patients the skin test was equivocal and in one it remained persistently negative. Chill reactions occurred in six of those treated with type I rabbit serum. Recovery occurred in all ten patients and was entirely uneventful in eight. Midpopliteal thrombophlebitis developed in one case. In two patients mild serum sickness of the urticarial type occurred ten days after the beginning of serum therapy, and of these one also had slight arthralgia.

One patient (case 1) requires special mention. On admission there was present a turbid pleural exudate which was grossly infected with type I pneumococcus. Following the intravenous administration of type I rabbit serum, type I antibody appeared in the exudate. Subsequently the exudate became sterile and was absorbed. The presence of antibody was demonstrated by agglutinin and precipitin reactions as well as by the mouse protection test. Surgical drainage was not required.

TYPE II PNEUMOCOCCUS PNEUMONIA

Four patients with type II pneumococcus pneumonia have been treated with unconcentrated type II antipneumococcus rabbit serum. The more important data are presented in table 2. Two patients had consolidation of two lobes on admission, in two there were pleural exudates grossly infected with type II pneumococcus, one had type II bacteremia, one auricular fibrillation, and in one delirium tremens developed. Two required treatment in the oxygen chamber. The disease had been present for an average period of seventy-four hours

TABLE 2.—*Type II Antipneumococcus Rabbit Serum Therapy in Type II Pneumococcus Pneumonia*

Case No.	Yrs.	X-ray	WBC thousands	Bacteremia colonies per cc.	Pleural exudate	First serum after onset, hours	Crisis after first serum, hours	Serum cc.	Result
1	♀ 60		16.1	8	+	50	48	229	D
2	♀ 36		22.8	0	0	52	46	155	R
3	♂ 19		20.0	0	+	49	66	268	R
4	♂ 50		18.9	0	0	145	7	210	R
Average						74	42	231	

before serum therapy was begun. The administration of serum was carried out over a period which averaged fifty hours for the four cases. The total unconcentrated serum dosage averaged 231 cc. per case. A drop in temperature, pulse and respiratory rates to normal occurred at an average of forty-two hours after the beginning of serum therapy, or an average of 116 hours after the onset of the disease. Skin tests with type II capsular polysaccharide were positive either at the time or shortly after the defervescence in all four cases. Chill reactions following serum occurred in three of the four patients. Serum sickness of the urticarial type occurred in each of the four patients, but in no instance

was it severe and arthralgia occurred in only one. Three patients recovered.

The two patients who had pleural exudate grossly infected with type II pneumococcus deserve separate mention. In case 2 there was a considerable collection of pleural exudate, which contained large numbers of type II pneumococci. It was not possible to demonstrate the presence of type II antibody in this fluid after the intravenous administration of type II rabbit serum. Loculated empyema developed and surgical drainage was instituted. This patient died suddenly five weeks after admission following rupture of a dissecting aneurysm of the thoracic aorta. This occurred into the empyema cavity. In case 13, 300 cc. of pleural exudate was withdrawn shortly after admission. This fluid contained large numbers of type II pneumococci. Following serum therapy it was possible to demonstrate the presence of type II antibody in this fluid and to prove immunologically that the antibody was of rabbit origin. Thereafter the exudate became sterile and operation was unnecessary. In the remaining two patients, convalescence was otherwise uneventful and uncomplicated.

TABLE 3.—*Type VII Antipneumococcus Rabbit Serum Therapy in Type VII Pneumococcus Pneumonia*

Case No.	Yrs	X-ray	WBC thousands	Bacteremia colonies per cc.	Pleural exudate	First serum after onset, hours	Crisis after first serum, hours	Serum cc.	Result
1	♂ 35		18.0	<1	0	37	39	164	R
2	♂ 32		14.2	0	0	34	11	122	R
3	♂ 60		9.7	0	0	26	9	150	R
Average						33	19	145	

TYPE VII PNEUMOCOCCUS PNEUMONIA

Three patients with type VII pneumococcus pneumonia have been treated with unconcentrated type VII antipneumococcus rabbit serum. The pertinent data are shown in table 3. One patient had type VII pneumococcus bacteremia on admission and one marked jaundice. Serum therapy was instituted after an average of thirty-three hours following the onset of the disease and was continued for an average of fourteen hours. The total unconcentrated serum dosage averaged 145 cc. per case. The temperature, pulse and respiratory rates dropped to normal by crisis in an average of nineteen hours after the beginning of serum therapy, or fifty-three hours after the onset of the disease. All recovered uneventfully. Moderate chill reactions occurred in two patients. In all three mild urticarial serum sickness developed and in one a sterile pleural effusion.

TABLE 4.—*Type VIII Antipneumococcus Rabbit Serum Therapy in Type VIII Pneumococcus Pneumonia*

Case No.	Yrs	X-ray	WBC thousands	Bacteremia colonies per cc.	Pleural exudate	First serum after onset, hours	Crisis after first serum, hours	Serum cc.	Result
1	♀ 32		27.4	2	0	23	33	185	R
2	♂ 24		9.2	0	0	26	43	267	R
3	♂ 15		7.9	0	0	74	19	135	R
4	♀ 56		26.8	<1	0	29	6	150	R
5	♀ 66		20.0	0	0	40	12	127	R
Average						38	23	173	

TYPE VIII PNEUMOCOCCUS PNEUMONIA

Five patients with type VIII pneumococcic pneumonia have been treated with unconcentrated type VIII antipneumococcus rabbit serum. The data are presented in table 4. Two patients had type VIII pneumococcus bacteremia on admission, one had bilateral consolidation, one was addicted to the use of dilaudid hydrochloride, and one was so ill as to require oxygen therapy. An average of thirty-eight hours elapsed from the onset of the disease until serum therapy was commenced. This was continued for an average period of eighteen hours. A total of 173 cc. of unconcentrated serum was given per case. The temperature, pulse and respiratory rates reached normal by crisis in an average of twenty-three hours from the institution of serum therapy or an average of sixty-two hours after the onset of the disease. Mild chill reactions occurred in four of the five patients. All five patients recovered. Convalescence was uncomplicated in all cases except for moderate urticarial serum sickness in three.

COMMENT

Twenty-two unselected cases of lobar pneumonia have been treated with unconcentrated type specific antipneumococcus rabbit serum. Ten patients had type I pneumonia, four had type II, three had type VII and five had type VIII. Of the twenty-two patients, twelve had pneumococcic bacteremia, seven had consolidation of two or more lobes, five were sufficiently ill to require treatment in the oxygen chamber, three had bilateral consolidation and three had pleural exudates containing large numbers of pneumococci. This series is summarized in table 5.

TABLE 5.—*Type Specific Antipneumococcus Rabbit Serum Therapy in Pneumococcic Pneumonia*

Type	Cases	Bacteremia, Number of Cases	Pleural Exudate Infected, Number of Cases	First Serum After Onset, Average Hours	Crisis After First Serum, Average Hours	Serum, Average Cc.	Mortality, per Cent
I	10	8	1	42	23	124	0
II	4	1	2	74	42	231	25
VII	3	1	0	33	19	145	0
VIII	5	2	0	38	23	173	0
Total	22	12	3	46	26	159	4.5

The average total dosage of antipneumococcus rabbit serum, irrespective of the type, was 159 cc. per case: 124 cc. for type I, 231 cc. for type II, 145 cc. for type VII and 173 cc. for type VIII. It is of interest that in 371 patients with type I pneumonia treated at the Hospital of the Rockefeller Institute the average total dosage of unconcentrated horse serum was 420 cc. per case.[2a] In almost every instance the temperature, pulse and respiratory rates fell to normal a few hours after the administration of rabbit serum and the clinical signs of toxicity were entirely relieved. The average interval from the institution of serum therapy to the termination of the crisis was twenty-six hours, and consequently the acute signs of the disease had disappeared after an average of seventy-two hours from the initial onset of the pneumonia.

It is worth while pointing out that the fall in temperature in the four cases of type II pneumococcus pneumonia was delayed for an average of forty-two hours after the beginning of serum therapy and that more serum was required for this type than for any other treated.

No evidence of sensitivity to rabbit serum on intravenous injection was found in any of the patients treated. Almost invariably the skin tests with normal rabbit serum were positive, but intravenous tests did not produce significant fall in blood pressure or any other sign suggesting hypersensitiveness. No immediate symptoms have followed the intravenous injection of 125 cc. of undiluted rabbit serum in a period as short as ten minutes. The chill reactions, which in the early cases frequently occurred an hour after the first and second and occasionally the third dose of serum, have latterly been eliminated by the oral administration of acetylsalicylic acid (0.9 Gm.) simultaneously with the first injection of serum. It must be reemphasized that the serum was heated to 56 C. for thirty minutes and after cooling was absorbed with sterile kaolin for fifteen hours at 4 C. Since the institution of these procedures chills have been abolished, and the administration of serum has thereby been made far more rapid and the single doses have been larger than was considered advisable in the beginning.

Sabin and Wallace [17] studied the effects of a large number of drugs, including the various antipyretics, on the chill reactions which follow the intravenous administration of horse antipneumococcus serum and concluded that, while nitrites, opium and antipyretics may mitigate the chill reaction, it is doubtful whether they have any practical therapeutic application.

It is highly desirable that the giving of antipneumococcus serum should be made as simple and as rapid as possible. With this in view the rate of administration of serum has been gradually increased in this series of cases with the hope of accomplishing adequate serum therapy with one injection. Actually the last three patients (cases 10, 17 and 22) were treated in this way and, excluding the initial intravenous test doses of 0.1 cc. and 2.0 cc., all received what was thought to be an adequate amount of serum in a single injection. In cases 10 and 17 an additional injection of 40 cc. and 25 cc. respectively was given a few hours after the first injection. It is considered possible that, after additional experience with the various types of immune rabbit serums has been acquired, most cases of lobar pneumonia can be adequately treated with one intravenous injection.

Of the three patients whose pleural exudates were grossly infected with pneumococci, sterilization occurred in two after the intravenous administration of serum, and the fluid was absorbed without the necessity of surgical drainage. In these two exudates the presence of type specific antibodies was readily demonstrable after serum therapy and it was possible by appropriate precipitin and absorption tests to determine that the antibody was of rabbit origin. In the remaining case no antibody was demonstrated in the exudate, and loculated empyema supervened and necessitated surgical intervention. Five weeks after the onset of the disease this patient died following rupture of an aneurysm of the thoracic aorta—the only death in the series. The two cases, one type I and one type II, in which recovery without empyema occurred in spite of initially infected pleural exudates seem worthy of additional consideration. One of the primary indications leading to the clinical trial of antipneumococcus rabbit serum was the apparent small size of the rabbit antibody as compared with that from the horse. The diameter of the former is certainly no greater than one third to one fourth the diameter of the latter.[18] Since pneumonic consolidation is primarily an extravascular lesion, as too are most of the infective complications resulting from or associated with it, any specific therapeutic agent that is to act locally in the lesion or against its causative agent must do so after penetrating the capillary endothelium. Since the ease with which substances penetrate or diffuse through semipermeable membranes, such as the capillary endothelium, is related in part to their physical size, it seemed reasonable to assume that the rabbit antibody should, by virtue of its smaller size, penetrate into both the pulmonary lesion and the pleural cavity with considerably greater ease and speed than could the horse antibody. In two instances at least this assumption has been found correct, since after the intravenous injection of rabbit serum antibody became readily demonstrable in the pleural fluid. In these two cases the infecting pneumococci disappeared from the pleural exudate and empyema did not occur. After the intravenous injection of horse antiserum it is known that antibody does not diffuse into the pleural space.[10]

Twenty-one of the twenty-two patients treated made a complete recovery. Convalescence was on the whole rather uneventful. Mild urticarial serum sickness occurred in twelve of the twenty-two, and in one popliteal thrombophlebitis developed. This was not followed by other sequelae.

17. Sabin, A. B., and Wallace, G. B.: J. Exper. Med. **53**: 339 (March) 1931.

18. Elford, Grabar and Fischer.[12] Heidelberger and Pedersen.[13]

SUMMARY

1. Twenty-two patients with lobar pneumonia have been treated with unconcentrated type specific rabbit antipneumococcus serums: ten with type I, four with type II, three with type VII and five with type VIII pneumococcus pneumonia.

2. Pneumococcic bacteremia was present in twelve of the twenty-two, consolidation of two or more lobes in seven, bilateral consolidation in three and pleural exudate containing large numbers of pneumococci in three.

3. Twenty-one patients recovered and one patient died of rupture of the aorta five weeks after the onset of the disease. Recovery was rapid and by crisis in almost all, and the signs of intoxication disappeared shortly after serum therapy. Crisis occurred after an average of twenty-six hours following the institution of serum therapy, and latterly in five cases with the more rapid administration of serum this period has been decreased to an average of nine hours.

4. Empyema did not develop in two patients with grossly infected pleural exudates. Type specific antibody of rabbit origin was demonstrable in these exudates after the intravenous administration of serum, and following this the pneumococci disappeared. Empyema occurred in one patient. In this case, type specific antibody was not demonstrable in the exudate and the pleural infection progressed, necessitating surgical drainage.

5. From these results it appears that unconcentrated type specific antipneumococcus rabbit serum is at least as effective as concentrated horse serum in the treatment of lobar pneumonia. This fact when added to the relative rapidity and ease with which it can be produced, the relatively low cost of the finished product, the facility with which it can be administered, as well as the evidence indicating that rabbit antibody can penetrate the pleura and assist in the sterilization of an infected exudate would suggest that type specific antipneumococcus rabbit serum is a therapeutic agent of considerable promise.

SUMMARY OF CASES

CASE 1.—A white man, aged 57, was admitted sixty hours after typical onset of type I pneumococcus pneumonia. X-ray examination showed consolidation of the right upper, right middle and right lower lobes. The white blood cells numbered 12,300. Blood culture yielded type I pneumococcus, 62 colonies per cubic centimeter. Pleural exudate contained large numbers of type I pneumococcus. Treatment in the oxygen chamber was necessary. Unconcentrated rabbit type I antipneumococcus serum therapy was begun three hours after admission. A total of 112 cc. of serum was given intravenously in the next ninety-four hours. The skin test became positive with type I polysaccharide. The temperature, pulse and respiratory rate dropped to normal by crisis ninety-five hours after the beginning of serum therapy (158 hours after the onset of pneumonia). Following this the temperature did not exceed 101.4 F. Convalescence was slow but progressive improvement occurred. Type I antibodies were demonstrated in the pleural exudate after the termination of serum therapy, and empyema did not develop. The pleural exudate became sterile and was slowly absorbed. Serum disease did not occur.

CASE 2.—A white woman, aged 36, was admitted ninety-eight hours after typical onset of type I pneumococcus pneumonia. X-ray examination showed dense consolidation of the right middle, right lower and left lower lobes. White blood cells numbered 6,800. Blood culture yielded type I pneumococcus, 4 colonies per cubic centimeter. The pleural exudate was sterile. The patient required treatment in the oxygen chamber. Unconcentrated rabbit type I antipneumococcus serum therapy was begun three hours after admission. A total of 115 cc. of serum was given intravenously in the next eighteen hours. The skin test with type I polysaccharide became positive. The temperature, pulse and respiratory rate dropped to normal by crisis twenty-four hours after the beginning of serum therapy (125 hours after the onset of pneumonia). On the following day there was a slight secondary rise in temperature to 101.8 F. and on the next day another rise in temperature to 100.9 F. Convalescence was uneventful. Serum sickness did not develop. The pleural exudate was rapidly absorbed.

CASE 3.—A white man, aged 30, entered the hospital twelve hours after the onset of type I pneumococcus pneumonia. X-ray examination revealed consolidation of the left lower and left upper lobes. The white blood cells numbered 3,900. Blood culture yielded type I pneumococcus, 1 colony per cubic centimeter. The patient was an alcoholic and rapidly became irrational and cyanotic. Unconcentrated type I antipneumococcus rabbit serum therapy was instituted three hours after admission. A total of 220 cc. of serum was given intravenously over a twenty-hour hour period. The skin test with type I polysaccharide became positive. There was a critical fall in temperature thirty-nine hours after the commencement of serum therapy (fifty-four hours after the onset of pneumonia). There was a slight evening rise in temperature on the three succeeding days. Convalescence was uneventful.

CASE 4.—A white boy, aged 8 years, was admitted thirty-eight hours after sudden onset of type I pneumococcus pneumonia. X-ray examination showed consolidation of the left lower lobe. The white blood cells numbered 22,000. Blood culture was sterile. Unconcentrated type I antipneumococcus rabbit serum therapy was instituted one hour after admission. A total of 32 cc. of serum was administered intravenously in four hours. The skin test with type I polysaccharide became positive. The temperature, pulse and respiratory rate fell by crisis to normal twelve hours after the beginning of serum therapy (fifty-one hours after the onset of pneumonia) and there was no secondary rise.

CASE 5.—A white man, aged 54, was admitted forty-two hours after typical onset of type I pneumococcus pneumonia. The patient had hyperchromic macrocytic anemia. X-ray examination showed consolidation of the right lower lobe. The white blood cells numbered 12,300. Blood culture yielded type I pneumococcus, 1 colony per cubic centimeter. Unconcentrated type I antipneumococcus rabbit serum therapy was begun two hours after admission. A total of 160 cc. of serum was given intravenously in sixteen hours. The skin test with type I polysaccharide remained negative. The temperature, pulse and respiration fell to normal ten hours after serum therapy was begun (fifty-four hours after onset of pneumonia). A mild urticarial serum sickness occurred eight days after admission.

CASE 6.—A white man, aged 29, was admitted thirty-six hours after typical onset of type I pneumococcus pneumonia. X-ray examination showed consolidation of the right middle and left lower lobes. The white blood cells numbered 18,300. Blood culture yielded type I pneumococcus, less than 1 colony in each 2 cc. of blood. Serum therapy was delayed until twelve hours after admission because of a positive skin test to type I polysaccharide. A total of 117 cc. of unconcentrated type I antipneumococcus rabbit serum was given intravenously over a seven hour period. The temperature, pulse and respiratory rate fell to normal by crisis fifteen hours after the beginning of serum therapy (sixty-two hours after the onset of pneumonia). A secondary rise in temperature to 101.2 F. occurred on the evening of the day of crisis. Convalescence was uneventful except for a mild postfebrile psychosis of three days' duration. Serum sickness did not occur.

CASE 7.—A white man, aged 50, was admitted twenty-eight hours after typical onset of type I pneumococcus pneumonia. X-ray examination showed consolidation of the right lower lobe. The white blood cells numbered 19,400. Blood culture was sterile. Unconcentrated type I antipneumococcus rabbit serum therapy was begun one hour after admission. A total of 140 cc. of serum was given intravenously in fifteen hours. The skin test with type I polysaccharide became positive. The temperature, pulse and respiratory rate fell to normal by crisis fourteen hours after the beginning of serum therapy (forty-four hours after the onset of pneumonia). A secondary rise of temperature to 102.8 F. occurred on the evening of the day of crisis. Moderately severe serum sickness with both skin and joint manifestations began on the eighth day following serum. Convalescence was complicated by thrombophlebitis involving the left popliteal vein. Resolution of this process occurred without incident.

CASE 8.—A white woman, aged 39, was admitted thirty-two hours after the onset of type I pneumococcus pneumonia. X-ray examination showed consolidation of the left upper lobe. The white blood cells numbered 16,400. Blood culture yielded type I pneumococcus, 3 colonies per cubic centimeter. An electrocardiogram revealed complete heart block. Unconcentrated type I antipneumococcus rabbit serum therapy was started two hours after admission. A total of 140 cc. of serum was given intravenously in twelve hours. The skin test became positive to type I polysaccharide. The temperature, pulse and respiratory rate came to normal by crisis fourteen hours after the beginning of serum therapy (forty-eight hours after the onset of pneumonia). No secondary rise in temperature occurred. Convalescence was uncomplicated.

CASE 9.—A white man, aged 42, was admitted thirty-two hours after typical onset of type I pneumococcus pneumonia. X-ray examination showed consolidation of the right lower lobe. The white blood cells numbered 25,800. Blood culture yielded type I pneumococcus, less than 1 colony in each 2 cc. of blood. Unconcentrated type I antipneumococcus rabbit serum therapy was begun two hours after admission. A total of 90 cc. of serum was given intravenously in a three hour period. The skin test with type I polysaccharide was equivocal. The temperature, pulse and respiratory rate fell to normal by crisis six hours after the beginning of serum therapy (forty-one hours after the onset of pneumonia). A secondary rise in temperature did not occur. Convalescence was uneventful. Serum sickness did not occur.

CASE 10.—A white woman, aged 50, was admitted eleven hours after the beginning of type I pneumococcus pneumonia. X-ray examination showed consolidation of the right lower lobe. The white blood cells numbered 14,800. Blood culture yielded type I pneumococcus, less than 1 colony per cubic centimeter. Unconcentrated type I antipneumococcus rabbit serum treatment was undertaken three hours after entry. A total of 120 cc. of serum was administered intravenously in three hours. The skin test became positive to type I polysaccharide. The temperature and pulse rate reached normal five hours after the beginning of serum treatment (nineteen hours after the onset of pneumonia). For the following fourteen days the patient had a low grade fever. Moderately severe urticarial serum sickness developed eight days after the beginning of serum therapy. Sterile pleural exudate was found to contain type I antibody. Resolution was slow.

CASE 11.—A white woman, aged 60, was admitted thirty-six hours after typical onset of type II pneumococcus pneumonia.

X-ray examination showed consolidation of the left lower lobe. The white blood cells numbered 16,100. Blood culture yielded type II pneumococcus, 8 colonies per cubic centimeter. Auricular fibrillation was present. Unconcentrated type II antipneumococcus rabbit serum therapy was begun fourteen hours after admission. A total of 179 cc. of serum was given intravenously in twenty-four hours. The skin test became positive to type II polysaccharide. The temperature declined by lysis over a period of twenty-four hours. In the succeeding three days an additional 80 cc. of serum was given because of secondary rises in temperature. Mild urticarial serum sickness occurred eight days after serum administration. Type II pneumococcus empyema developed on the eighth day of disease and was treated by rib resection and drainage. Type II antibody was not demonstrable in the pleural exudate. The patient died suddenly thirty-eight days after admission from rupture of a dissecting aneurysm of the thoracic aorta.

CASE 12.—A white woman, aged 36, was admitted thirty-six hours after typical onset of type II pneumococcus pneumonia. X-ray examination showed consolidation of the right lower lobe. The white blood cells numbered 22,800. Blood culture was sterile. Unconcentrated type II antipneumococcus rabbit serum therapy was instituted sixteen hours after admission. A total of 155 cc. of serum was given intravenously in the next eighty hours. The skin test became positive to type II polysaccharide. The temperature, pulse and respiratory rate fell to normal by crisis sixty-eight hours after the beginning of serum therapy (120 hours after the onset of pneumonia). No secondary rise in temperature occurred. Convalescence was rapid and uneventful except for very mild urticarial serum sickness, which developed ten days after the beginning of serum.

CASE 13.—A white youth, aged 19, was admitted forty-eight hours after the abrupt onset of type II pneumococcus pneumonia. The patient was an alcoholic addict. X-ray examination revealed consolidation of the right lower lobe, which spread rapidly to involve both the right middle and the right upper lobe. The white blood cells numbered 20,000. Blood culture was sterile. Unconcentrated type II antipneumococcus rabbit serum treatment was begun one hour after admission. A total of 268 cc. of serum was injected intravenously within a period of thirty hours. Falling blood pressure and cyanosis required the administration of oxygen in the chamber. The skin test became positive to type II polysaccharide. The temperature and pulse rate reached normal levels sixty-eight hours after the beginning of serum therapy (117 hours after the onset of pneumonia). Pleural exudate during the febrile stage contained large numbers of type II pneumococci. After the intravenous administration of serum, type II antibody of rabbit origin became demonstrable in this exudate and the pneumococci disappeared. The exudate was rapidly absorbed and convalescence was uneventful, except for mild urticarial serum sickness that developed after five days. The subsequent course was uneventful.

CASE 14.—A white man, aged 50, was admitted 144 hours after an acute onset of type II pneumococcus pneumonia. X-ray examination showed massive consolidation of the right upper lobe. The white blood cells numbered 18,900. Blood culture was sterile. Unconcentrated type II antipneumococcus rabbit serum therapy was instituted one hour after admission. A total of 210 cc. of serum was given intravenously in six hours. Marked cyanosis necessitated the administration of oxygen. There was also slight jaundice. The skin test became positive to type II polysaccharide. The temperature, pulse and respiratory rate fell to normal seven hours after the beginning of serum treatment (152 hours after the onset of pneumonia). Moderate secondary rises in temperature, unaccompanied by signs of intoxication, occurred on eight succeeding days. There was no pleural exudate but resolution was markedly delayed. Mild urticarial serum sickness with slight arthralgia occurred after fourteen days.

CASE 15.—A white man, aged 35, was admitted thirty-two hours after a typical onset of type VII pneumococcus pneumonia. X-ray examination revealed consolidation of the right upper lobe. The white blood cells numbered 18,000. Blood culture yielded type VII pneumococci, 1 colony in each 2 cc. Unconcentrated type VII antipneumococcus rabbit serum therapy was commenced five hours after admission, and 164 cc. of serum was given intravenously in thirty-five hours. The temperature, pulse and respiratory rate fell to normal by crisis thirty-nine hours after the beginning of serum therapy (seventy-six hours after the onset of pneumonia). Convalescence was interrupted only by slight urticaria and transitory joint stiffness, which developed nine days after the beginning of serum therapy.

CASE 16.—A white man, aged 32, was admitted twenty-eight hours after atypical onset of type VII pneumococcus pneumonia. The patient was deeply jaundiced. X-ray examination showed consolidation of the right lower lobe. The white blood cells numbered 14,200. Blood culture was sterile. Unconcentrated type VII antipneumococcus rabbit serum therapy was begun six hours after admission. A total of 122 cc. of serum was given intravenously in four hours. The temperature, pulse and respiratory rate fell to normal by crisis eleven hours after the beginning of serum therapy (forty-five hours after the onset of pneumonia). Jaundice disappeared quickly following defervescence, but mild serum sickness appeared seven days after administration of the serum. A sterile effusion occurred into the right pleural cavity during convalescence but was rapidly absorbed.

CASE 17.—A white man, aged 60, was admitted twenty-seven hours after the onset of type VII pneumococcus pneumonia. X-ray examination showed a consolidation of the right upper lobe. The white blood cells numbered 9,750. Blood culture was sterile. Unconcentrated type VII antipneumococcus rabbit serum therapy was begun one hour after admission. A total of 150 cc. of serum was injected intravenously in twelve hours. The temperature, pulse and respiratory rate reached normal nine hours after the commencement of serum therapy (thirty-seven hours after the onset of pneumonia). On the following five days there was a slight evening elevation of temperature. Convalescence was uninterrupted except for urticarial serum sickness, which developed four days after the beginning of serum treatment and recurred six days later.

CASE 18.—A white woman, aged 51, was admitted twenty hours after typical onset of type VIII pneumococcus pneumonia. X-ray examination showed consolidation of the right upper lobe. The white blood cells numbered 27,400. Blood culture yielded type VIII pneumococcus, 2 colonies per cubic centimeter. Oxygen therapy was necessary. Unconcentrated type VIII antipneumococcus rabbit serum therapy was begun three hours after admission. A total of 185 cc. of serum was given in the next twenty hours. The temperature, pulse and respiratory rate fell to normal by crisis thirty-three hours after the institution of serum therapy (fifty-six hours from the onset of pneumonia). No secondary rise in temperature occurred. Convalescence was uneventful except for extensive urticarial serum sickness, which developed six days after the beginning of serum.

CASE 19.—A white man, aged 24, was admitted twenty-four hours after onset of type VIII pneumococcus pneumonia. X-ray examination revealed consolidation in the right lower and left lower lobes. The white blood cells numbered 9,200. Blood culture was sterile. Unconcentrated Type VIII antipneumococcus rabbit serum treatment was undertaken two hours after entry. A total of 267 cc. of serum was given during a period of thirty-three hours. The temperature, pulse and respiratory rate fell precipitously to normal forty-three hours after the beginning of serum therapy (sixty-nine hours after the onset of pneumonia). No secondary rise in temperature occurred. Serum sickness did not occur. Convalescence was uneventful.

CASE 20.—A white youth, aged 15, was admitted seventy-two hours after typical onset of type VIII pneumococcus pneumonia. X-ray examination showed consolidation of the left upper lobe. The white blood cells numbered 7,900. Blood culture was sterile. Treatment with unconcentrated type VIII antipneumococcus rabbit serum was begun two hours after admission. A total of 135 cc. of serum was given intravenously in seventeen hours. The temperature, pulse and respiratory rate fell to normal by crisis nineteen hours after the beginning of serum therapy (ninety-three hours after the onset of pneumonia). No secondary rise in temperature occurred. Convalescence was uneventful except for very mild urticarial serum sickness which developed twelve days after administration of the serum.

CASE 21.—A white woman, aged 56, was admitted twenty-eight hours after typical onset of type VIII pneumococcus pneumonia. X-ray examination showed consolidation of the right upper lobe. The white blood cells numbered 26,800. Blood culture yielded type VIII pneumococcus, less than 1 colony in

each of 2 cc. of blood. Unconcentrated type VIII antipneumococcus rabbit serum therapy was begun two hours after admission. A total of 150 cc. of serum was given intravenously in four hours. The temperature, pulse and respiratory rate fell to normal by crisis twelve hours after the beginning of serum therapy (forty-two hours after the onset of pneumonia). Transient urticaria appeared ten days after the serum was given. Convalescence was uneventful.

CASE 22.—A white woman, aged 68, was admitted thirty-eight hours after typical onset of type VIII pneumococcus lobar pneumonia. X-ray examination showed consolidation of the right lower lobe. The white blood cells numbered 20,000. Blood culture was sterile. A total of 127 cc. of unconcentrated type VIII antipneumococcus rabbit serum was given intravenously in a single injection two hours after admission. The temperature, pulse and respiratory rate fell to normal by crisis twelve hours after injection of the serum (fifty-two hours after the onset of pneumonia). No secondary rise in temperature occurred. Convalescence was uneventful. Serum sickness did not develop.

Sixty-Sixth Street and York Avenue.

THE RATIONALE OF THE TANNIC ACID-SILVER NITRATE TREATMENT OF BURNS

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A new conception of burns has been brought about as a result of their treatment by the tannic acid-silver nitrate method.[1] This treatment appears to change the lesion into one comparable to a surgical wound. It is this induced change, by the application of tannic acid and silver nitrate, that makes it superior to any other procedure from many different points of view:

1. The saving of lives that would be lost through the slower method of tanning.
2. The immediate stopping of the loss of body fluids, thereby preventing the consequent concentration of the blood.
3. The immediate prevention or very definite minimizing of shock.
4. The immediate prevention of the absorption of toxic products.
5. The prevention of infection by the short period of application of moisture and the early drying of the tanned tissues.
6. The saving of the kidneys and other organs from the effects of fluid concentration and the absorption of toxins and infection.
7. The greater comfort of the patient.
8. The fact that the patient is carried safely past the first twenty-four hours, the most critical period following a serious burn.
9. The fact that the patient avoids the second critical period, that of infection and late absorption of toxic products.
10. The simplification of the nursing problem, especially in the first twenty-four hours.
11. The prevention of further breaking down of tissues, resulting from long application of wet dressings.
12. The prevention of chilling, resulting from the long application of cold, wet dressings.
13. The formation of a thin, flexible coagulum.
14. The speedy healing of the burned areas with a shortened period of hospitalization.
15. The prevention or minimizing of heavy contracting scars by early rapid healing in the absence of infection.
16. The lessening of the amount of skin grafting and secondary corrective surgery.

From the Department of Surgery, University of Oregon Medical School.
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1. Bettman, A. G.: The Tannic Acid-Silver Nitrate Treatment of Burns, Northwest Med. **34**: 46-51 (Feb.) 1935; Tannic Acid and Silver Nitrate in Burns, Surg., Gynec. & Obst. **62**: 458-463 (Feb., No. 2A) 1936.

In July 1934 I used the tannic acid and silver nitrate method for the first time on an extensive burn, the seventh burn on which it was used, although I had for many years used the same agents for the removal of tattooing. The result was the spectacular recovery of a doomed man. Previous presentations have dealt solely with the details of the application of the treatment. The present paper is a consideration of its rationale.

A burn lesion is not the burn alone but the burn plus all those consequences which develop because the treatment does not check them. The outcome of the treatment has in the past too often been considered as an unavoidable part of the original condition. Accordingly the treatment of serious burns has been approached with dread by physicians because of the limited benefits accruing from their management.

When tannic acid is applied to a burn and is followed by silver nitrate, a coagulum speedily forms which becomes impermeable to the further loss of body fluids and which immediately prevents additional fluid shifts. Through its speed alone in producing this change, it saves lives. This treatment by preventing dehydration minimizes shock and thereby carries the patient safely through the most critical period; that is, the first twenty-four hours following a serious burn. It therefore lessens one of the most fatal untoward effects of a burn.

A burn, however produced, results in injury to, or destruction of, the skin to a greater or less depth, frequently extending into the subjacent tissues. This injury to the outer protecting layer of the body quickly results in the formation of large or small vesicles, which may remain intact or which may become ruptured and ooze for a long time. Following a burn there begins at once the outpouring from the surface of the body of a great quantity of fluid. The loss of the outer layers of skin, those which act as a seal, allows this to take place unhindered. This serum loss rapidly reduces the amount of all body fluids. The removal of the protective layers of the skin alone by any means, including burns, results in a copious outflowing of serum. Such weeping outlets must be sealed at once to prevent dehydration.

In addition to the surface escape of fluid there is produced very early a reaction which calls for the pouring out of circulating body fluids into the tissues adjacent to the thermal injury. This local stagnation of fluids is also very large. Escape of fluid by means of the action of the sweat glands must also be added. These combined losses of circulating body fluids, namely, that which oozes from the body and that which stays in the tissues, is therefore not only voluminous but consequential, since Blalock,[2] Parsons and Phemister,[3] Harkins,[4] Underhill, Kapsinow and Fisk[5] and

2. Blalock, Alfred: Experimental Shock: VII. The Importance of the Local Loss of Fluid in Production of the Low Blood Pressure After Burns, Arch. Surg. **22**: 610-616 (April) 1931. Beard, J. W., and Blalock, Alfred: Experimental Shock: VIII. The Composition of the Fluid That Escapes from the Blood Stream after Mild Trauma to an Extremity, After Trauma to the Intestines, and After Burns, ibid. **22**: 617-619 (April) 1931.

3. Parsons, E., and Phemister, D. B.: Hemorrhage and "Shock" in Traumatized Limbs, Surg., Gynec. & Obst. **51**: 196 (Aug.) 1930. Phemister, D. B.: The Vascular Properties of Traumatized and Laked Bloods and of Bloods from Traumatized Limbs, Ann. Surg. **87**: 806 (June) 1928.

4. Harkins, H. N.: Experimental Burns: I. The Rate of Fluid Shift and Its Relation to the Onset of Shock in Severe Burns, Arch. Surg. **31**: 71-85 (July) 1935; Shift of Body Fluids in Severe Burns, Proc. Soc. Exper. Biol. & Med. **31**: 994-995 (May) 1934; Bleeding Value in Experimental Burns, ibid. **32**: 3-4 (Oct.) 1934; Bleeding Volume in Severe Burns, Ann. Surg. **102**: 444 (Sept.) 1935.

5. Underhill, F. P.; Kapsinow, Robert, and Fisk, M. E.: Studies in the Mechanism of Water Exchange in the Animal Organism: III. The Extent of Oedema Fluid Formation Induced by Superficial Burns, Am. J. Physiol. **95**: 325 (Nov.) 1930. Underhill, F. P., and Kapsinow, Robert: The Alleged Toxins of Burned Skin, J. Lab. & Clin. Med. **16**: 823 (May) 1931.

many other investigators have shown that traumatic shock is the result of the diminution and shift in circulating body fluids.

A brief review of some of the major points brought out by these experimenters is of interest. Animals were fixed on their backs in a trough suspended from above, in such a manner that the apparatus just balanced and was attached to a revolving, recording drum. Severe injury without bleeding was then produced to one side of the animal by burning or beating. Very shortly that side of the apparatus became heavier than the other. This shift of body fluids began promptly. Forty per cent of the maximum shift occurred within the first hour after the injury and continued in a gradually decelerating curve. In the course of these experiments the amount of circulating fluids lost was estimated in various ways: (1) by balancing the overweight of the burned side with weights on the opposite side and (2) by weighing separately the two sides of the animal after death. These authors further showed that the amount of blood obtained by bleeding an animal under an anesthetic is an index of the circulating blood volume. In control dogs the bleeding volume averaged over 55 per cent of the calculated circulating blood volume. In shock due to severe trauma of the extremities, whether caused by a burn or otherwise, it was reduced to as much as 16 per cent. The shift from the circulating blood stream to and about the injured tissues consisted therefore of a very large percentage of the circulating blood volume. The figures representing the circulating fluid loss were further substantiated by excising sections of muscle from the injured and the uninjured side, weighing them and then evaporating them to dryness, and also by expressing the fluids under pressure. The same figures were obtained. These determinations were still further checked by frequent hemoglobin estimations and hemocrit readings and were compared with control animals similarly anesthetized but otherwise uninjured.

The average loss of circulating body fluids following a severe burn was found to be 2.1 per cent of the total body weight. As dogs do not blister and weep, this loss was solely into and about the injured tissues. It was out of the circulation though not out of the body. The deprivation of a large volume of circulating body fluids is therefore shown to be the direct cause of shock, which will become manifest when the fluid reaches a certain low point. However, other factors may increase it. Other experimental evidence also shows that the blood pressure holds up fairly well until shortly before death. It falls only after the heart output is reduced, when shock supervenes. The blood pressure is therefore not a reliable criterion of the condition of the burned patient. Hemoglobin determinations, on the other hand, give much more reliable information and should be made frequently. The fluid that escaped into subcutaneous tissues after an experimental burn showed some chloride increase over the fluid portion of the blood. Sugar and nonprotein nitrogen were not changed, and the protein content was somewhat lower. It very closely resembled blood plasma.

It follows, then, that when a part is burned or otherwise injured there is produced in and about that area an altered physiology. A call goes forth that results in a rapid and great seeping of fluids into, and adjacent to, the injured area. A considerable fluid loss thereby is rapidly attained. However, when such a traumatized region is treated at once by the application of tannic acid followed by silver nitrate, all the destroyed and injured tissues down to the very borderline of impaired cells are picked up and fixed in an innocuous, nonabsorbable coagulum.

The shift of the circulating body fluids into the tissues adjacent is halted at once. The necessity for prompt and complete stoppage of all fluid losses is imperative. A treatment that requires more than an hour in which to seal up the leaking surfaces and to control the fluid shift is therefore to a high degree inefficient. Tannic acid and silver nitrate applications which act instantly are therefore most efficient. The practical importance of speed in the initial treatment of burns is manifest when it is recalled that 60 per cent of the deaths from burns occur in the first twenty-four hours, nearly all from traumatic shock.

What are the practical applications of the foregoing facts to a man of say 155 pounds (70 Kg.)? The calculated blood volume, being one thirteenth of the body weight, is therefore 12 pounds (5.4 Kg.). The total amount of circulating body fluids is about 60 per cent of the calculated blood volume, or 7.2 pounds (3,266 Gm.). The loss of 2.1 per cent of the total body weight therefore would be 3¼ pounds (1,474 Gm.). Thus is lost between 40 and 50 per cent or even a greater amount of the entire fluid portion of the blood. It was also determined by comparison with experimental animals that a burn of one sixth of the body surface of a 150 pound (68 Kg.) man may cause a loss of 3,500 cc. or 70 per cent, a staggering amount, of the circulating body fluids in the first twenty-four hours.

The efforts of nature to overcome an injury by dilution of the obnoxious agent call for the outpouring of fluid into the surrounding and adjacent tissues. This produces edema of the intercellular spaces and widespread swelling. When tannic acid and silver nitrate are applied, the seal they provide exerts an influence that is beneficial beyond anticipation. The changes in the surface come with great promptitude. What was but a moment ago a red, wet, oozing, irritated surface is now covered with a black, smooth, dry, leatherized eschar, soft and flexible, yet firmly attached and acting as a protection from injury from without, as well as being an occlusant against the loss of fluids from within. The usual widespread and important systemic effects of the burn are not noted. Untoward reactions are absent and the picture is entirely different from that seen when other treatments are used.

With this treatment, the temperature usually does not rise above 101 F. even in extensive burns, and the pulse and respiratory rates are proportionately low. The red blood cell counts remain remarkably near normal, as do also the white cell counts. Only a few staff cells are present.

Gunn and Hillsman [6] state that kidney damage occurs so regularly and so early that it may be taken as a part of the phenomena of burns and not be classed as a complication. Yet, when the tannic acid-silver nitrate treatment has been used, urinary suppression has never been seen, nor has albumin been present, or other abnormal elements, in the absence of grease or oil applications, except sugar, which may be present in the early specimens following any burn. The minimal systemic effects are a notably outstanding feature of this regimen.

When wet solutions are applied to tissues, normal or injured, over a long period, there is produced a reaction which is threefold: edema, maceration and infection. The presence of fluid, tannic acid solution, saline solu-

6. Gunn, J., and Hillsman, J. A.: Thermal Burns, Ann. Surg. **102**: 429-443 (Sept.) 1935.

tion or what not, in contact with tissues over many hours is responded to by a dilatation of the neighboring blood vessels and an outpouring of fluid into the tissues. In addition, there is absorption of portions of the fluid into and about the injured area. A combination of these actions, therefore, results in the escape of increased amounts of fluids into the intercellular spaces. These spaces, becoming engorged, produce a very considerable enlargement of the extremity. This takes place when for example wet packs are applied as to a hand. However when tannic acid and silver nitrate are applied, the period of the application being but a few minutes at most, there is not time for the dilatation of vessels, for the outpouring of fluids from the circulation, for the absorption of fluids from the surface or for weeping.

Substances such as may be present as a result of the tissue destruction and which may produce local reactions causing intercellular edema are grasped and held at once permanently in an insoluble, nonabsorbable, irreversible matrix. There are therefore no irritating substances beneath the coagulum to call out a reactive response. There is no outpouring of fluid, no oozing, no overfilling of the intercellular spaces, no edema, no enlargement of the extremities and no increase of pressure within the coagulum. There are no toxins or other deleterious substances to be absorbed.

In practically all burns there remain unimpaired many epithelial islands of skin and of the deep glands. The long application of any solution breaks down many or all of these. Tannic acid and silver nitrate save these centers of epithelization, and speedy healing with lessened scar tissue is therefore promoted.

By the use of tannic acid and silver nitrate, there being no fluid on the surface for long periods and the casing formed being dry, nonabsorbable and of a composition which is not a good culture medium, infection is prevented. The wound is dry and clean from the onset and is kept so throughout.

Contrariwise, when grease or oil in any form has been applied, whether as the burning agent or as the treatment, even though complete removal is attempted, there will remain areas which are not as dry as when grease has not been applied. Grease and oil applications should never be made to any burn.

When slow acting coagulating applications are made there is much edema, which progressively increases the tension of the tissues within the slowly forming casing. The application of tannic acid followed by silver nitrate produces an eschar under which there is little or no increased tension. An objection to the use of tannic acid alone is the loss of digits, which sometimes occurs. The marked difference in the tannic acid alone and the tannic acid-silver nitrate treatment in this regard is distinctly shown in the cases to be cited:

CASE 1.—Baby C., aged 5 months, received a burn of the entire right upper extremity, the chest and the face. The tannic acid-silver nitrate treatment had not yet been used on extensive burns and was used only on the chest. Tannic acid alone was used on the extremity and the face, according to established technic. The leatherization took place over a period of some hours, with another period for drying. During the time that the coagulum was forming an outpouring of serum from the surface as well as into the subcutaneous and deep tissues was taking place, as was also some absorption of fluid from the surface. These actions continued concurrently with the formation of the leatherized encasement, and the extremity became confined within a slowly forming but nevertheless firm case. The edema progressively increased and the pressure within the casing increased with it and finally became sufficiently great so that the venous return flow was impeded, as was also the arterial circulation. The hand sloughed off at the wrist just below the point at which the circulation was superficial and therefore most easily compressed.

CASE 2.—R. B., a man, aged 45, received a 54 per cent (by actual measurement) gasoline burn extending from the top of his head to his right ankle. He was seen shortly after patient 1. So seriously burned was he that three physicians told him that his condition was hopeless. The burn of the hand and arm was more severe than that of the child, and his general condition was also very much worse. When I saw him four hours after the accident a considerable loss of circulating body fluids had already taken place. The hemoglobin was 165 per cent of normal and the red blood cell count showed concentration in proportion. Tannic acid was applied from head to foot, followed by silver nitrate. The oozing was stopped almost instantaneously and within a few minutes the surface was dry and there was no further increase of the dehydration. Albumin was never present in the urine. The outpouring of serum into the adjacent tissues was also stopped with promptitude. Encasement of more than half of the body surface, including the entire right arm and forearm, both wrists and hands and right leg and thigh, head, back and other parts, was quickly accomplished. A firm, dry, thin, leather-like covering was formed. The blood vessels of the wrists and elsewhere were not impinged on and the circulation of the burned extremities was not interfered with. There was little or no increase of pressure within the casings. The passage of but a few days showed that both hands with all fingers would be saved intact. He was all healed and well by the forty-second day and today has no impairment of function of the fingers and hands and no scarring anywhere except on the back of the right hand and forearm, where Thiersch grafts were applied on the twenty-sixth day.

The contrast of these two cases is very vivid. Not only was this life saved by the prompt action of the medicaments but his hands also by the absence of undue pressure within the rigid encasement which covered the extremities like a glove. It is not intended to convey the idea that digits may never be lost under this treatment, but they are not lost because of edema within the coagulum.

Three cultures taken from beneath unbroken tanned and dry coagulum on two seriously burned patients showed no growth of organisms, but cultures taken from uncovered areas showed Staphylococcus albus. The dry surface of treated areas is not a good culture medium for bacteria, and this condition is augmented by the antiseptic action of the silver present in the coagulum. From early periods silver, both in the metal and in the salts, has had wide usage for the prevention of infection in wounds, and surely it is here applied to a maximum effect.

That no absorption of silver takes place even when extremely large amounts of solution are used is proved by the fact that in none of the many cases treated has argyria or other evidences of silver absorption been seen, although carefully watched for. It has not been noted by other surgeons who have reported experience with this treatment.[7]

Patients treated with tannic acid followed by silver nitrate are remarkably comfortable at once. Many patients are ambulatory from the beginning or at a very early date, frequently even when portions of the lower extremities or the torso are the sites of injury. Even in very extensive burns, patients move about quite freely in bed. The extreme systemic effects of the burn are greatly extenuated. Irrational periods are present only in very large burns and are of short duration.

7. Trindade, Olavo: Methodo de Bettman no tratamento de queimaduras pelo acido tannico-nitrato de prata, A Folha Medica (Brazil), October 1935. Cotter, A. P., and Kimball, N. K. B.: The Tannic Acid-Silver Nitrate Treatment of Burns, New Zealand M. J. **34**: 384-388 (Dec.) 1935. Rambo, V. C., and James, J.: Treatment of Trophic Ulcers in Leprosy, J. Christian M. A. India, September 1935. Connell, J. H.: Modern Therapy in the Treatment of Burns, New Orleans M. & S. J. **88**: 575 (March) 1936.

A serious burn affects all the vital organs unless stopped by efficient treatment. When dehydration occurs, it lowers the heart output and makes difficult the carrying on of the vital processes by the blood cells operating in deficient fluids with increased viscosity and resulting anoxemia. The lessened aeration of the blood is the effect of the difficulty in taking on oxygen and giving off carbon dioxide and other waste products. Toxic substances are excreted with difficulty and incompletely. The blood chemistry particularly is changed. The absorption of degenerated tissue and bacterial toxins modifies the action of all the organs and tissues within the body. It is proposed to discuss the blood chemistry phase of this treatment at another time. These untoward effects are not seen when the burn is early treated with tannic acid and silver nitrate as directed.

The treatment of burns with tannic acid alone has proved far superior to greases and oils and other applications. While the use of tannic acid alone, as brought out by Davidson,[8] is a decided advance over applications of grease and oil, yet it is not comparable to the tannic acid-silver nitrate method. The tannic acid alone and the dye treatments act in hours. Tannic acid followed by silver nitrate controls the condition in minutes. As stated earlier, red blood cells and albumin do not occur in the urine of patients under the tannic acid-silver nitrate regimen in the absence of applications of grease or oil; but when these applications have been made there is always albumin in the urine, even though an attempt has been made to remove them.

In the latter case the deficiency in the stoppage of the fluid loss through weeping and edema is but slightly less than when grease has not been applied, not sufficient to make an appreciable difference in the concentration of the blood, yet this slight surface moisture is enough to permit the entrance into the blood stream of toxins or other elements that are present on the surface and to allow some infection to develop. The absorption of some substance or substances from the surface must account for the presence of the albumin in the urine.

Concentration of the blood by itself is not sufficient to explain the albuminuria, for it does not appear in other conditions in which dehydration is a marked factor, such as cholera, persistent diarrhea, severe hemorrhage and prolonged vomiting. Something other than fluid loss must be responsible for the injury to the kidneys, spleen, liver, adrenals, blood production mechanism and other internal organs. Also, when grease or oil has once been applied the temperature, pulse, respiration, blood counts and the like are increased over what they would have been had such application not been made. The breaking down of protein and the slight infection that develops must account for the presence of substances which are promptly absorbed and which give systemic reactions.

One pictures mentally the terrible painfulness of daily or more frequent dressings of a seriously burned child treated by carron oil or other oil and applications of grease. The infection is always so great beneath the dressings that frequent removals are imperative.

With tannic acid alone the maximum problem of nursing is the often to be repeated applications by swabbing, spraying or packs, with their almost continuous disturbing of the patient. As the coagulum slowly forms the loss of circulating body fluids continues, and this loss must be made up by repeated intravenous, subcutaneous or rectal administrations of fluid, for the stomach retention is usually at a low point at this time.

With tannic acid followed by silver nitrate, one thorough application of the medication and the patient is allowed to rest in his bed warmed by electric lights, being disturbed only once or twice or maybe three times for the giving of intravenous fluids. Surprisingly early is the mouth intake and the stomach retention sufficient to meet all requirements. Frequent hemoglobin estimations are the simple, easy and ever at hand guide that should determine the amount of the fluid intake. Following a serious burn a minimum of 1,000 cc. of fluids should be given every twenty-four hours for every 25 pounds (11 Kg.) of body weight, and this should be more or less equally divided throughout this period.

In the early part of the first twenty-four hours a very liberal proportion of the fluids should be given, but care is necessary, especially in children, to see that too large a quantity is not given at any one time. The sudden throwing of 500 cc. of fluid into the blood stream of a patient weighing say 50 pounds (23 Kg.), and who normally has but 4 pounds (1,814 Gm.) of blood, would dilute the circulating body fluids 25 per cent or more.

When the hemoglobin reading is nearing normal, care should be used in giving extra-alimentary fluids. A diplomatic nurse will have no difficulty in persuading her patient to take the required amount of water, fruit juices and the like by mouth after the earliest hours, provided it is properly distributed throughout the waking period. The necessity for including salt must not be overlooked, and dextrose also.

Instead of the nurse bending her efforts toward the production of a good coagulum, she has no concern with this feature, as it has already been accomplished by the twofold application, and she therefore spends her time in keeping the patient warm and the coagulum dry and in forcing fluids.

By this procedure the coagulum is formed by the combination of tannic acid with the body fluids and then by a union of the silver nitrate with this first combination. The application of tannic acid produces a grayish white precipitate, which instantly becomes black when in contact with the silver nitrate. Metallic silver is precipitated into the mass, where it is fixed. Any heavy metal would undoubtedly act in much the same way if used when silver nitrate is not available, but the good offices of the silver would be lacking.

Burns treated with oil and grease heal slowly, become infected, form abundant scar tissue and have a long and trying period of hospitalization. The treatment by tannic acid followed by silver nitrate, in the absence of oil and grease, promotes smooth healing. There is little or no infection beneath the coagulum, there is minimum scarring and a short period of hospitalization, frequently none at all, and there are no dressings to be changed. Many patients are entirely healed beneath the coagulum when it comes away.

Our records show that the hospital confinement period has been reduced to one-fourth the time by this treatment. In other words, it takes only weeks now for recovery whereas under former treatments months were required.

The tannic acid-silver nitrate treatment of a burn is carried out as follows: The patient is given a narcotic, which is repeated as often as may be necessary

8. Davidson, E. C.: Tannic Acid in the Treatment of Burns, Surg., Gynec. & Obst. **41**: 202-221 (Aug.) 1925.

for comfort. Fluids must be forced throughout.[9] Grease and oil in any form should not be used. If such an application, unfortunately, has been made, it must be removed with ether, benzene or ethyl acetate before treatment is applied. All blebs are to be opened and all loose skin and other burned tissues are to be removed. A thorough application of fresh 5 per cent tannic acid solution is made by means of cotton swabs. Following this, 10 per cent silver nitrate solution is applied in the same manner.

The local treatment now being completed, the patient is placed in a tent heated by electric light bulbs and the burned areas are dried and kept dry. In a few days the coagulum begins to loosen and is removed as early as possible. When it comes away, large areas and not infrequently all the burned surfaces will be found to be entirely healed. Occasionally moisture will be hidden beneath crusts where drying has not been satisfactorily accomplished, and such areas are unhealed. When the coagulum is adherent but loose, it is removed, a scalpel being used if necessary. Unhealed areas are treated by the application of oxyquinoline sulfate scarlet R gauze,[10] in a single layer over which a light pad of dry gauze is placed, and healing is greatly speeded up.

The schedule here outlined—the avoidance of grease and oil, the giving of a narcotic, the application of tannic acid followed by silver nitrate, drying the coagulum, keeping it dry and removing it early, forcing fluids and the stimulation of epithelization—constitutes a superior method of treating serious burns. Less skin grafting and other reconstructive measures are required. There are minimum scars, and greatest of all is the saving of lives that would otherwise be lost.

Medical Arts Building.

NONPARALYTIC POLIOMYELITIS VERSUS CHORIOMENINGITIS

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In the summer and fall months of 1935, physicians in and about Philadelphia observed that many of their patients suffered from a disease of the central nervous system which for the most part presented the following picture: The onset was usually acute, with fever, headache, nausea or vomiting forming the chief triad of symptoms. Examination disclosed some stiffness and rigidity of the neck with increased white cells in the spinal fluid, the majority of which were lymphocytes. The febrile period lasted from seven to ten days, declining by lysis and resulting in complete recovery without evidence of weakness or paralysis. Because of the type of onset, the physical changes and the termination of this disease several diagnoses were made, among which may be listed abortive poliomyelitis, encephalitis, meningismus, influenza, aseptic meningitis and the more recent disease referred to by Armstrong and Dickens [1] as acute lymphocytic choriomeningitis.

Since many physicians believed that they were dealing with an atypical or an abortive type of poliomyelitis, it was considered wise to refer such cases to the Philadelphia Hospital for Contagious Diseases for observation and study. Accordingly, late in July, patients presenting the aforementioned syndrome were admitted to a ward of the hospital especially assigned to such cases. This ward is equipped with a cubicle system of isolation, each cubicle having its own medical aseptic technic and containing either two beds or two cribs. Up to November 25, sixty-seven persons with these symptoms and signs were admitted, a summary of which is reported in table 1.

It will be seen from a glance at the table that the symptoms and signs most prevalent were fever, headache, nausea, vomiting and stiffness or rigidity of the neck. The headaches were mostly frontal in type and of a persistent character. The rigidity of the neck, the pains in the legs and neck, the backache, the nasal discharge and the action of the deep reflexes were strikingly similar in character to those observed in poliomyelitis.

Table 2 shows that although the largest number (68.65 per cent) of patients affected were under 10 years of age, a goodly number were credited to those of 10 years or more. The youngest patient in this group was 6 months of age and the oldest 26 years. Thirty-six, or 53.73 per cent, were males and thirty-one, or 46.27 per cent, were females. Of this group forty-nine cases, or 73.13 per cent, occurred in the white race and eighteen, or 26.87 per cent, in the colored race.

Fever was not a very striking feature of this disease, for only six (8.96 per cent) had a temperature of 103 F., whereas thirty-six (53.73 per cent) recorded a temperature of 100 F. or less. Twenty-five patients had a temperature ranging between 100 and 103 F. The average duration of fever in fifty of these patients was 7.05 days. However, when this group is divided into those who did not present evidence of weakness or paralysis and those who did, one finds that in the latter group the average duration of fever was 8.92 days while in the former it was 6.04 days. Of the sixty-seven patients seven were afebrile and ten had a fever which lasted more than two weeks. These were not included in calculating the aforementioned averages. The longest duration of fever, in a child with severe respiratory complications was forty-six days while the shortest was one day.

The majority of the patients had an increased spinal fluid pressure, with an abnormal number of white blood cells. The average cell count was 113 per cubic millimeter. The highest cell count recorded was 1,280 per cubic millimeter, while the lowest was 14 per cubic millimeter. The majority of the cells were of the lymphocytic variety, in many cases totaling 100 per cent. The average chloride was 665 mg., sugar 68 mg. and protein 83 mg. per hundred cubic centimeters.

A glance at table 3 shows that thirty-five, or 52.24 per cent, of the patients were discharged with some evidence of weakness or paralysis. Thirty-two had paralysis of the lower extremities; one leg was involved in eighteen, and both legs were involved in fourteen patients. The three remaining paralytic patients had an involvement of the face and upper extremities. Six of the patients admitted with evidence of weakness or paralysis recovered before discharge, while one patient without paralysis on admission presented it on discharge.

There occurred one death in this series. This, of course, was among the paralytic group. The gross and histopathologic examination confirmed the diagnosis of poliomyelitis.

9. Bettman, A. G.: Burns: Treatment of Shock and Toxemia; Healing the Wound; Reconstruction. Am. J. Surg. **20**: 33-37 (April) 1933.
10. Bettman, A. G.: A Simpler Technic for Promoting Epithelization and Protecting Skin Grafts, J. A. M. A. **97**: 1879-1881 (Dec. 19) 1931.
1. Armstrong, Charles, and Dickens, P. F.: Pub. Health Rep. **50**: 831 (June 21) 1935.

A study of the white blood cells in fifty-two patients without any evidence of weakness or paralysis showed an average count of 10,130 cells per cubic millimeter. The lowest count was 6,160 and the highest 16,160. Twenty-seven patients with evidence of weakness or paralysis had an average cell count of 13,170. The lowest count was 8,160 and the highest was 29,040 per cubic millimeter.

TABLE 1.—*Incidence of Signs and Symptoms*

Fever		79.10%
Headache		68.65%
Nausea and vomiting		61.19%
Pain in legs		14.93%
Pain in neck		10.45%
Chill		7.46%
Pain in abdomen		5.97%
Cough		5.97%
Sore throat		4.48%
Backache		4.48%
Nasal discharge		4.48%
Drowsiness		4.48%
Photophobia		2.99%
Convulsions		2.99%
Pain in eyes		1.49%
Sneezing		1.49%
Frothing at mouth		1.49%
Sore neck		1.49%
Constipation		1.49%
Knee jerks	Absent	14.93%
Deep reflexes	Absent	8.96%
Stiffness of neck	Present	46.27%
Kernig	Present	29.85%
Babinski	Present	5.97%
Rigidity of spine	Present	8.96%
Brudzinski	Present	2.99%

COMMENT

In presenting an analysis of this small group of patients admitted to the Philadelphia Hospital for Contagious Diseases from July to November 1935 I am aware of the possibility that they may or may not represent the same type of patients seen by other physicians in this district during the same period. However, in reading the reports of other cases in Philadelphia I am rather favorably impressed with their similarity to this group. It is interesting to note that the records of the Department of Public Health of Philadelphia show that 114 cases of poliomyelitis with six deaths were reported during the year 1935. This is not a normal number for the city, for as a rule there are reported about a dozen cases annually. In this group one finds:

1. Sixty-seven patients ranging in age from 6 months to 26 years.

2. An acute onset with fever, headache, nausea, vomiting and stiffness of the neck in most of the patients.

3. An increased number of white blood cells in the spinal fluid, most of which were lymphocytes.

4. Thirty-five, or 52.24 per cent, of these patients with evidence of weakness or paralysis and thirty-two without.

I am not greatly concerned about the diagnosis of the thirty-five who showed evidence of weakness or paralysis, for I do not believe that any one will dispute the diagnosis of acute anterior poliomyelitis with paralysis in this group, but I am very much concerned with the group of thirty-two patients who were admitted during the same period who were treated in the same ward and who presented the same symptoms as the former group but who showed no evidence of weakness or paralysis on leaving the hospital.

It is natural to wonder whether one is not dealing with the same disease, some cases of which presented paralysis while others did not. It is also natural to wonder whether one is not dealing with an entirely new disease in this group of nonparalytic patients. They might be cases of acute lymphocytic choriomeningitis, or aseptic meningitis as reported by Gunther,[2] or perhaps the epidemic serous meningitis as noted by Eckstein.[3] Even if the foregoing diagnosis could be made in the thirty-two nonparalytic patients they certainly could likewise be called poliomyelitis without paralysis. Surely the occurrence of this condition during the summer months, the type of onset, the symptoms and signs, and the presence of paralysis in some and the absence of paralysis in others would strongly favor the diagnosis of poliomyelitis. However, it must be admitted that the absence of paralysis and the presence of a high familial tendency may be interpreted by some as sufficient evidence against such a diagnosis.

Hneleski [4] reports twenty-three cases of acute lymphocytic meningitis in adults and Noone and his associates [5] report thirty-seven cases of epidemic lymphocytic meningo-encephalitis in children, admitted during the same period to the Philadelphia General Hospital. In reviewing their cases it is interesting to note that the type of onset, the symptoms and signs, and the laboratory observations correspond very closely to this group of cases, except that in no instance did any of their patients show evidence of weakness or paralysis.

These authors do not believe their cases to be a mild poliomyelitis because of (1) the absence of paralysis, (2) the high familial tendency, (3) the failure to produce either choriomeningitis, poliomyelitis or encephalitis in injected guinea-pigs, mice, rabbits and monkeys, and (4) the inability of convalescent serum obtained from their patients to neutralize known virus of choriomeningitis, poliomyelitis and the St. Louis type of encephalitis.

If one pauses for a moment to reflect, one will recall that for many years the medical profession has taught that poliomyelitis without paralysis occurs more frequently than poliomyelitis with paralysis. Draper [6] states that from 50 to 80 per cent of all cases do not go on to paralysis and he remarks: "This means that the apparent size of any given epidemic in terms of paralysis represents only from a fifth to one-half its actual extent."

TABLE 2.—*Percentage Distribution by Age Groups*

Under 1 year	1.49%
1 to 4 years	28.36%
5 to 9 years	38.80%
10 to 14 years	14.93%
15 to 19 years	8.96%
20 plus	7.46%

TABLE 3.—*Distribution of Paralysis*

One leg	18
Both legs	14
Facial alone	1
Facial and one arm	1
One leg and both arms	1
Total	35

2. Gunther, Allan: Jahrb. f. Kinderh. **128**: 127-154 (July) 1930.
3. Eckstein, A.: Klin. Wchnschr. **10**: 22 (Jan. 3) 1931.
4. Hneleski, I. S.: Unpublished Report, Philadelphia Neurologic Society, 1936.
5. Noone, E. L.; Habel, Karl, and Riggs, Helen E.: Epidemic Lymphocytic Meningo-Encephalitis, Am. J. Dis. Child. **52**: 870 (Oct.) 1936.
6. Draper, George: Infantile Paralysis, New York, D. Appleton-Century Company, 1935.

Paul, Salinger and Trask [7] show that the abortive form of poliomyelitis may be from two to five times as common as the form with paralysis. In a community studied by them 84 per cent, in another 82 per cent and in still another 77 per cent had no paralysis.

Again, if one studies the 1916 and 1932 epidemics in Philadelphia,[8] the 1916 and 1931 epidemics in New York City,[9] the 1930 and 1934 epidemics in California [10] and the 1935 epidemic in the South [11] one cannot help but be impressed by the growing tendency for poliomyelitis (1) to affect the older age groups, (2) to have a lower attack rate, (3) to cause fewer cases of residual paralysis and (4) to show a gradual decrease in the death rate.

A high familial tendency was not a prominent feature in my cases. In this group of sixty-seven patients only eight cases occurred in three families. In the 1931 epidemic in New York City, 3,999 families were affected. Of this number, 3,901, or 97.5 per cent, had one case per family and ninety-eight families, or 2.5 per cent, had more than one case. My percentage figures compare most favorably with these.

The failure to produce disease from nasal washings, spinal fluid and other tissues and the inability to demonstrate the presence of antiviral substances in convalescent serum of patients, even for a known or mixed type of virus, is only presumptive evidence against a disease and is not absolute. Kolmer [12] states that from 12.1 to 63.2 per cent (average 34.9 per cent) of those who have had an attack of poliomyelitis may not have antiviral substances in their blood.

Therefore, if one is to make the clinical diagnosis of acute lymphocytic meningitis, acute lymphocytic choriomeningitis, acute epidemic meningo-encephalitis in the type of cases herein reported, one must deny the existence of poliomyelitis without paralysis, and no case could be safely diagnosed poliomyelitis unless there was evidence of weakness or paralysis. It is true that in the laboratory a virus which behaves differently from that of poliomyelitis has been isolated by many investigators, but this is of no help to the physician in practice. From the public health point of view it is much safer and wiser, at the present time, to handle such patients as having acute anterior poliomyelitis without paralysis.

In view of the facts presented, I believe that Philadelphia, like other districts, experienced a mild or an atypical form of poliomyelitis in 1935.

Front and Luzerne streets.

7. Paul, J. R.; Salinger, R., and Trask, J. D.: Am. J. Hyg. **17:** 587 (May) 1933.
8. Henry, J. N., and Johnson, G. E.: Acute Anterior Poliomyelitis in Philadelphia, J. A. M. A. **103:** 94 (July 14) 1934. Lucchesi, P. F.: Am. J. M. Sc. **188:** 515 (Oct.) 1934.
9. Poliomyelitis, International Committee, Baltimore, Williams and Wilkins Company, 1932.
10. Articles on Poliomyelitis, Am. J. Pub. Health **24:** 1204-1213 (Dec.) 1934.
11. Articles on Poliomyelitis, Am. J. Pub. Health **26:** 95-112 (Feb.) 1936.
12. Kolmer, J. A.: Susceptibility and Immunity, J. A. M. A. **105:** 1956 (Dec. 14) 1935.

A Seeming Paradox.—It has been a seeming paradox that the medical profession has so consistently endeavored to make of the world a place where there is a constantly lessening need for the medical man. He is, indeed, already feeling the effect of these efforts, and as he becomes more and more a servant of the public health, and less and less a prescriber for individual ills, he philosophically accepts and humanely welcomes this outcome of medical discoveries which the experimental method has already given and will increasingly continue to give.—Cushing, Harvey: Consecratio Medici and Other Papers, Boston, Little, Brown & Co., 1928.

THE ADDIS COUNT IN CHILDREN

FOLLOWING CLINICAL RECOVERY FROM POSTINFECTIOUS NEPHRITIS

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A method for the quantitative estimation of the constituents of urinary sediment was described by Addis [1] in 1925. He advanced the idea that the type of renal pathology might be predicted from study of the sediment. The following year he [2] published what he considered to be normal figures for the various constituents, particularly red blood cells, leukocytes and epithelial cells, and casts. Since that time Goldring [3] has made studies of the sediment of clinically well adults and of adults with nephritis, rheumatic heart disease, subacute bacterial endocarditis and pneumonia. His averages for normal adults were higher than those of Addis. Naeraa [4] has reported figures for well adults higher than those of Addis and lower than those of Goldring. He also made the interesting observation that the number of red blood cells increases with the age of the individual.

The first work with children in this field was reported by Rew and Butler,[5] who studied the urinary sediment from three groups of children: sixteen children with no known kidney disease or recent infection of any kind, sixteen children during or just subsequent to acute infections, five children with nephritis, and one with nephrosis. The latter determinations were made during active stages of the kidney disease. Lyttle [6] studied the sediment of a group of normal children and set up normal standards for the various constituents; he [7] also made studies of the sediment of children with scarlet fever. Palacios and Otero [8] have also made determinations of the urinary sediments of normal children, and the results obtained agree in general with those of the other authors; their red blood cell counts were slightly higher. We have not found any records of determinations made on children who have clinically recovered from acute postinfectious hemorrhagic nephritis.

In our clinic we have been particularly interested in both the immediate and the ultimate prognosis of acute postinfectious hemorrhagic nephritis in children. We have used a follow-up system in our dispensary to observe these children personally once or twice a year after recovery until they become too old for our clinic. More recently we have made provisions to follow them on through adolescence and the "-teen" age. We have been able to show that after these children recover from their nephritis they remain completely well and are free from kidney disease as far as we can determine by the usual clinical and laboratory procedures. It occurred

1. Addis, Thomas: Clinical Classification of Bright's Disease, J. A. M. A. **85:** 163 (July 18) 1925.
2. Addis, Thomas: Number of Formed Elements in Urinary Sediment of Normal Individuals, J. Clin. Investigation **2:** 409 (June) 1926.
3. Goldring, William: Clinical Application of Sediment Count (Addis), Am. J. M. Sc. **182:** 105 (July) 1931; Kidney in Acute Infection; Sediment Count (Addis) in Lobar Pneumonia, J. Clin. Investigation **10:** 355 (June) 1931.
4. Naeraa, Asger: Determination of Sediment According to Addis Method; Normal Values, Hospitalstid. **77:** 1445 (Dec. 25) 1934.
5. Rew, W. B., and Butler, A. M.: The Addis Sediment Count in Children, J. Pediat. **1:** 216 (Aug.) 1932.
6. Lyttle, J. D.: Addis Sediment Count in Normal Children, J. Clin. Investigation **12:** 87 (Jan.) 1933.
7. Lyttle, J. D.: Addis Sediment Count in Scarlet Fever, J. Clin. Investigation **12:** 95 (Jan.) 1933.
8. Palacios, F. G., and Otero, M. B.: Sediment Count in Cell-Counting Chamber; Study of Urine of Normal Children, Pediatria españ. **24:** 59 (Feb.) 1935.

to us that a study of the urinary sediment of these children might be of benefit in assisting us to determine more definitely the condition of their kidneys.

MATERIAL AND TECHNIC

We have observed approximately 250 children who have had acute postinfectious hemorrhagic nephritis and have made a clinical recovery. Twenty-five of these, or about 10 per cent, were selected for this study. We attempted to select a representative cross section of the total group for our study, although in general the children observed suffered from more severe and more prolonged illnesses than did the average of the entire group. Table 1 includes a complete list of the children, with a brief summary of the clinical history and course of illness. In this table is also noted the length of time between the onset of nephritis and the Addis count; this varies from one-half to eight years.

Two classes of patients are generously included in this study: those with acute cerebral manifestations and those with a persistent albuminuria following an otherwise complete recovery. Ten of the twenty-five children had enough evidence of cerebral involvement, such as hypertension, twitchings, convulsions or coma, to cause special notations to be made on their records. This is a higher percentage than that in the group as a whole. Also, four children in this group had albuminuria which persisted longer than three months, while we have had only eight in the entire group who have behaved in this manner.

All of the patients but one (patient 8) had a definite history of an acute febrile infection preceding the nephritis. In this one case it was not possible to get a history of the nature of the preceding infection; he was stuporous on admission and the blood pressure was high. He made a rapid recovery, following administration of magnesium sulfate. There were nineteen boys and six girls. The preponderance of the former is explained by the fact that some of our specimens had to be collected at home and that it is easier under home conditions to obtain urine free from extrarenal white and epithelial cells from boys.

Two of the boys had had two distinct attacks of nephritis, each followed by complete recovery. One boy (patient 4) passed less than 2 ounces of urine a day for two weeks, and then, following diuresis, made a complete recovery.

The methods used for collecting specimens and making the counts were those described by Addis, as modified by Lyttle for children. Fluids are severely restricted during the day preceding the collection of urine; then all the urine passed between 7 p. m. and 7 a. m. is collected in one container. A definite quantity of the urine is centrifugated at a given speed for a given length of time and a quantitative estimation of the formed elements is made in a counting chamber. From this figure the total number of cells and casts in the twelve hour specimen is calculated. We too have observed the impracticability of restricting fluids severely in children, but all specimens reported here were acid in reaction and of specific gravity 1.018 or higher. Total protein determinations were not made.

Counts were made on children from other wards in order to familiarize ourselves with the technic. Counts were also made on children with active nephritis and nephrosis and in all of these the expected high figures were obtained. These two groups of children thus served as controls.

Because of lack of space, seven of the twenty-five children could not be hospitalized. In each of these

TABLE 1.—*Clinical History of Twenty-Five Patients*

Case No.	Summary of History* and Examination	Interval Between Onset of Nephritis and Addis Count	Addis Count	
1	Otitis media; questionable history of scarlet fever; hemolytic streptococcus abscess over clavicle; very ill; uneventful recovery	5 yrs.	R:	0
			W&E:	64,444
			C:	0
2	Otitis media; marked hypertension; function moderately decreased; uneventful recovery following mastoidectomy	1 yr.	R:	60,000
			W&E:	600,000
			C:	0
3	Scarlet fever; admitted with acute cerebral complications; convulsion and marked hypertension; elevation of blood chemistry figures; rapid recovery	4 yrs.	R:	0
			W&E:	0
			C:	0
4	Streptococcic throat infection followed by cervical adenitis; moderate edema with almost complete suppression of urine for two weeks; rapid recovery	2 yrs.	R:	0
			W&E:	450,000
			C:	0
5	Scarlet fever; mild nephritis; albuminuria persisted for three months	3 yrs.	R:	0
			W&E:	302,500
			C:	36,663
6	Febrile illness with rash—probably scarlet fever; blood chemistry figures high; rapid recovery	6 yrs.	R:	41,666
			W&E:	402,777
			C:	13,888
7	Febrile illness with rash—probably measles; marked edema; albuminuria persisted for three years	4 yrs.	R:	94,000
			W&E:	752,000
			C:	0
8	Nature of preceding infection not known; admitted in stupor with cerebral complications; uneventful recovery	3½ yrs.	R:	0
			W&E:	816,666
			C:	0
9	Cervical adenitis and otitis media; mild nephritis; gradual, uneventful recovery	4½ yrs.	R:	74,444
			W&E:	297,777
			C.	18,611
10	Scarlet fever; complete recovery from nephritis in few weeks except for persistent albuminuria, which cleared up after about twenty months	2 yrs.	R:	57,200
			W&E:	234,000
			C:	0
11	Acute infection of upper respiratory tract; nephritis with acute cerebral complications; uneventful recovery	3 yrs.	R:	0
			W&E:	330,000
			C:	12,210
12	Two separate attacks of nephritis with preceding throat and ear infections in each case; threatened cerebral edema with first	8 yrs. and 4 yrs.	R:	0
			W&E:	0
			C:	0
13	Mild nephritis with uneventful recovery. See text for explanation of abnormal count	1 yr.	R:	8,000,000
			W&E:	15,200,000
			C:	30,000
14	Scarlet fever; edema and hypertension; uneventful recovery	2½ yrs.	R:	0
			W&E:	0
			C:	0
15	Acute throat infection; mild nephritis; albuminuria and slight hematuria persisted for about six months; complete recovery after tonsils and adenoids were removed	1 yr.	R:	0
			W&E:	128,230
			C:	0
16	Febrile infection with rash—probably scarlet fever; edema; hypertension; blood and casts in urine for one year; albuminuria for two years; complete recovery	5 yrs.	R:	7,888
			W&E:	157,777
			C:	15,788
17	Scarlet fever; mild nephritis with complete recovery; measles one year later with no exacerbation of nephritis	2½ yrs.	R:	0
			W&E:	990,000
			C:	15,000
18	Acute throat infection followed by cervical adenitis; edema; anemia; complete recovery after one month	3 yrs.	R:	0
			W&E:	650,000
			C:	0
19	Acute throat infection; nephritis with uneventful recovery	1 yr.	R:	0
			W&E:	390,000
			C:	0
20	Acute throat infection followed by pneumonia and empyema; marked edema; cerebral complications; uneventful recovery	2½ yrs.	R:	26,400
			W&E:	559,200
			C:	0
21	Acute upper respiratory tract infection; severe nephritis; cerebral complications; albuminuria for three months	2½ yrs.	R:	0
			W&E:	486,000
			C:	0
22	Two attacks of postinfectious nephritis; first followed by scarlet fever; complete recovery; second attack six years later followed acute throat infection; patient entered hospital in coma and convulsions; marked edema; severe nephritis; complete recovery after one month	7 yrs. and 1 yr.	R:	0
			W&E:	410,000
			C:	0
23	Acute upper respiratory tract infection with cervical adenitis; mild nephritis followed by complete recovery	3 yrs.	R:	0
			W&E:	44,000
			C:	0
24	Acute throat infection with cervical adenitis; uneventful recovery	2½ yrs.	R:	0
			W&E:	0
			C:	0
25	Acute throat infection with cervical adenitis; rather severe nephritis with moderate hypertension; recovery after one month	4 yrs.	R:	0
			W&E:	0
			C:	0

* All patients had albuminuria, hematuria and cylindruria in the acute stage of their nephritis.

Explanation of symbols used in table: R, red blood cells; W&E, white and epithelial cells; C, casts.

instances the mother was given detailed written instructions and the specimens were obtained at home. These proved as satisfactory as those obtained in the hospital with the exception of specimens collected from girls. Several of the latter were rejected because of excess of epithelial and white blood cells. Of the seven home specimens, only one was from a girl.

RESULTS

The results of the cell and cast determinations for each child are shown in table 1. With the exception of one girl (patient 13) the figures correspond well with those established by Lyttle for normal children. This girl had a moderately severe case of acute postinfectious hemorrhagic nephritis about one year previous to this study and made a complete clinical recovery. After she was discharged from the hospital she was observed in the dispensary with normal urine and negative observations. Her first Addis count was abnormally high for all formed elements and she was readmitted to the hospital for a second count about two weeks later. The results of the two counts were practically the same. We did not feel that the manifestations were due to a chronic or latent nephritis and she was admitted to the general pediatric service for further study and diagnosis. Intravenous pyelograms revealed a hydronephrosis on one side and a diagnosis was made by the urologist of a pyogenic or tuberculous infection of the kidney. She is to be observed carefully and the ultimate outcome will be reported.

Table 2 compares the limits for cells and casts established by Addis for normal adults, Lyttle for normal children, and our group of postnephritic children; the averages for these groups also are given. It will be noted that the average number of red cells, not including the one exception mentioned, is 19,817, as compared to Lyttle's average of 15,181 for normal children. For white and epithelial cells our average is 337,707, as compared to his normal of 322,184. The average number of casts is 3,410; Lyttle's average was 1,085. Our percentage of zero cast counts and zero red blood cell counts compares very favorably with those of Lyttle for normal children: 64 per cent for the former in our series as compared to his 73 per cent, and 72 per cent for the latter as compared to his 67 per cent. However,

TABLE 2.—*Limits for Cells and Casts*

	Adults (Addis)	Normal Children (Lyttle)	Postnephritic Children
Casts			
Range	0 to 4,270	0 to 12,916	0 to 18,611
Average	1,040	1,085 ± 123	3,401
Red blood cells			
Range	0 to 425,500	0 to 129,900	0 to 114,000
Average	65,750	15,181 ± 1,400	19,817
Epithelial and white blood cells			
Range	32,400 to 1,835,000	9,000 to 2,822,000	0 to 990,000
Average	322,500	322,184 ± 25,500	337,706

in our patients when casts were found they were present in slightly greater number; his highest cast count was 13,000 and ours was 18,600. When the extremely large factor used in calculations is considered, this is not a great difference and may be considered to be within the limits of ordinary error in counting. A difference of one cell per square in the chamber makes a difference of 10,000 in the total specimen.

Naeraa [4] made an observation in normal adults which we noted in our group of children: there is apparently no correlation between the number of casts and that of red blood cells. Some specimens with no blood cells have casts and some with no casts have blood cells.

SUMMARY AND CONCLUSIONS

1. Quantitative determinations were made of the constituents of the urinary sediment obtained by the method of Addis from twenty-five children who had clinically recovered from acute postinfectious hemorrhagic nephritis for periods of from one-half to eight years.

2. With the exception of one girl, the figures obtained correspond very closely to those obtained on normal children. This one girl, who had an abnormally high count, was found to have a hydronephrosis.

3. Except in this one case, pathologic sediments were not found when ordinary clinical and laboratory procedures gave normal reactions.

4. We feel that our results furnish further evidence toward the view that children who have clinically recovered from acute postinfectious hemorrhagic nephritis do not have subacute or latent nephritis. In this work clinical recovery implies absence of all known symptoms and signs of nephritis, as well as completely negative urinalyses as routinely conducted.

APPENDICITIS

A STATISTICAL SURVEY OF 10,000 CONSECUTIVE CASES AT PROVIDENCE HOSPITAL

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DETROIT

The data collected for this survey are based on all the clinical cases of appendicitis registered in Providence Hospital, Detroit, during the decade January 1925 to May 1935 and represent the treatment of 10,000 cases by approximately twenty-five different surgeons. The statistics are the result of critical analyses of all appendix cases, the combined information of clinical history and histopathologic reports. More than 98 per cent of all the appendixes were examined histopathologically by the senior author. In cases in which disagreement arose between the clinical and the tissue diagnosis, the sections were reviewed or additional sections were cut and examined. The pathologist's diagnosis was then adopted in classifying the case, but in some instances both the clinical and the histopathologic information was relied on for this purpose.

The clinical diagnoses of acute appendicitis corresponded with the pathologic diagnoses in 85.6 per cent of the cases.

One of the primary purposes in making this survey was to determine accurately the mortality rate in cases of appendicitis in this hospital. There were 379 deaths recorded in the 10,000 cases reviewed for the decade, giving an uncorrected death rate of 3.79 per cent for all cases with a clinical diagnosis of appendicitis.

Of the deaths indicated in table 1, ninety-three occurred in the chronic appendicitis group, constituting 1.3 per cent of all chronic cases and 24.5 per cent of all deaths; 257 deaths occurred in the acute appendicitis group, constituting 9.92 per cent of the acute cases and 67.8 per cent of the total deaths; twenty-nine deaths occurred in an unclassified group of cases in

which insufficient clinical data were recorded or no operation was performed. These twenty-nine deaths constituted 11.51 per cent of the unclassified group of cases and 7.7 per cent of the total deaths. This last group of cases includes justifiable exemptions from the total reported because appendectomy operations were not performed or deaths resulted from causes other than the removal of the appendixes.

THE INFLUENCE OF SEX

Sex was recorded in 9,382 cases; 6,076 were females and 3,306 were males.

The factors explaining the high incidence in females were the predominance of female admissions to the hospital and the frequency of removal of the appendix incidentally to other operative procedures in the female. In eighty-four cases normal appendixes were removed as a prophylactic procedure during female pelvic operations. Deaths in females constituted 45.3 per cent of the total fatalities, and about 80 per cent of chronic cases occurred in the female patients.

The simple acute, suppurative, gangrenous and ruptured forms of appendicitis were encountered much more frequently in males, and this is responsible for the high mortality rate in this sex.

There were 169 deaths among the 6,076 female patients, giving a mortality rate of 2.8 per cent; 201 deaths occurred among the 3,306 male patients, giving a mortality rate of 6.1 per cent.

AGE GROUPS AND MORTALITY

The age of patients was recorded in 7,434 cases, the youngest being 10 months of age and the oldest over 80 years. These cases, when arranged in age groups, show the following interesting percentages:

Children under 5 years of age numbered eighty-two, or 1.1 per cent of the total of 7,434 cases of appendicitis; the deaths in this group numbered fifteen, or a mortality rate of 18.3 per cent.

Children from 5 to 10 years of age numbered 320, or 4.3 per cent of the total group; the deaths numbered twenty-eight, or a mortality rate of 8.8 per cent.

Individuals between 10 and 40 years of age numbered 6,147, or 82.5 per cent of the 7,434 cases; the mortality rate in this group was 2.86 per cent.

Cases in the age group of 40 to 50 years numbered 631, or 8.5 per cent of the total group, with a mortality rate of 7.8 per cent.

Cases in the age group of 50 to 60 years numbered 201, or 2.7 per cent of the total; the deaths numbered thirty-seven, or a mortality rate of 18.4 per cent. This rate will be observed as almost identical with that encountered in the first five year period.

The cases of appendicitis in the age group over 60 years numbered thirty-three, or 0.7 per cent of the total; the mortality rate in this group was 34 per cent, being the highest obtained for any age.

It is evident that the age groups 1 to 10 years and 50 to 90 years contributed 79.5 per cent of the total mortality. Extremes of life, therefore, produce the fewest number of cases but yield the highest mortality rates.

The greatest incidence of appendicitis was in the 20 to 30 year period, or 3,626 cases, with seventy-one deaths in this group, a mortality rate of 2.3 per cent. This is a distinct contrast with the statement of H. M. Beebe that the greatest risk appears during this life period.

There were 402 cases in children under 10 years of age, 75.4 per cent of which were classified as acute. Moreover, 10.3 per cent of all ruptured appendixes were found in this small age group. The high mortality in young children is due to the high incidence of appendicitis in the acute form in this group, and especially the occurrence of rupture.

TEMPERATURE RELATIONSHIPS

In 85.1 per cent of all cases there was an admission temperature of between 97 and 100 F.

In 40.3 per cent of the cases in which appendixes were ruptured the admission temperature was over 100 F.

TABLE 1.—*Classification of Cases of Appendicitis, Providence Hospital, 1925-1935*

Type of Case	No. of Cases	Percentage of Cases	No. of Deaths	Uncorrected Death Rate, Percentage*
Chronic	7,147	71.47	93	1.30
Acute	2,590	25.90	257	9.92
Simple acute	1,430	14.30	94	6.57
Acute gangrenous	760	7.60	61	8.02
Acute ruptured	400	4.00	102	25.50
Tuberculous	2	0.02	0	0
Carcinoid	9	0.09	0	0
Unclassified†	252	2.52	29	11.51
Totals	10,000	100.00	379	3.79
Corrected death rate				2.92

* All deaths based on clinical diagnosis of appendicitis.
† Insufficient clinical data or no operation performed.

In only 4.8 per cent of all the chronic cases was the admission temperature over 100 F.

In 68.2 per cent of cases terminating fatally the temperature was between 102 and 104 F. This high temperature was reached within five days after operation in 83.7 per cent of the cases, and in the simple acute, gangrenous and ruptured forms it was reached within two days after operation.

RELATIONSHIP OF TYPE OF APPENDICITIS TO PERIOD OF CONVALESCENCE

Only 5.4 per cent of the cases of chronic appendicitis required more than twenty days for recovery. Of the acute forms, 12.5 per cent required more than twenty days for recovery, and 31.2 per cent of the ruptured appendix cases required more than twenty days.

From the standpoint of mortality, the first week after operation was the most dangerous period, 74.1 per cent of deaths having occurred during that time.

RELATION OF BLOOD PICTURE TO APPENDICITIS

Blood counts were recorded in 6,601 cases; of these, sixty-five cases showed a leukopenia and fifty-nine of the sixty-five cases were in the chronic group, four were in the simple acute, one was gangrenous and one was ruptured. Five deaths, or 7.7 per cent, occurred in this leukopenic group.

In 3,086 cases the leukocytes numbered from 5,000 to 10,000; 2,776 of these were classed as chronic appendicitis, 246 as simple acute, thirty-three as gangrenous, and thirty-one as ruptured. Fifty-nine deaths occurred, a mortality of 1.6 per cent.

In 2,265 cases there was a leukocytosis of from 10,000 to 15,000; 1,623 of these were classed as chronic, 490 as simple acute, 104 as gangrenous, forty-seven as ruptured, and one as a tuberculous appendix. Forty-three deaths in this group gave a mortality of 1.9 per cent.

In 1,031 cases a leukocytosis of from 15,000 to 25,000 occurred; 378 of these were classified as chronic, 372 were simple acute, 186 gangrenous, ninety-four ruptured, and one was a carcinoid appendix. There were 124 deaths, or a mortality of 12 per cent.

In 174 cases a leukocytosis of from 25,000 to 50,000 prevailed; there were in this group forty-seven chronic cases, fifty-five simple acute, forty-five gangrenous, and twenty-seven cases in which rupture had occurred. In all, there were forty-nine deaths, with a mortality of 28.1 per cent. This information, while it does not permit a more detailed analysis to determine in which class of appendicitis the deaths occur, indicates that leukocytosis above 15,000 carried a high mortality rate.

In the cases in which a monocytic differential count was recorded it was found that mononuclears constituted less than 10 per cent of the white blood cells in 919 cases; deaths numbered ninety-one, a mortality of 9.9 per cent.

A mononuclear count of between 10 and 20 per cent was determined in 2,011 cases with 107 deaths, a mortality of 5.3 per cent for the group. Mononucleosis of from 20 to 30 per cent was found in 1,757 cases with forty-one deaths, a mortality of 2.3 per cent. In mononucleosis of from 30 to 50 per cent, found in 1,424 cases, there were twenty-one deaths, a mortality of 1.47 per cent. When a mononucleosis of from 50 to 75 per cent occurred, as it did in seventy-eight cases, there was but one death, or a mortality of 1.28 per cent for this group.

These figures indicate that the mortality rate decreased with the elevation of mononuclear cells, and, conversely, a low mononuclear cell count carried a greater liability for death.

ANALYSIS OF MORTALITY

Since only 292 deaths of the total 379 were directly attributable to appendicitis, complicated or uncomplicated, the corrected mortality rate for this series of 10,000 cases is 2.92 per cent and is obtained by excluding (1) deaths before operation could be done, (2) deaths following multiple operations with incidental removal of the appendix, and (3) deaths in cases in which operation was performed but the diagnosis of appendicitis was wrong and some other operation was performed. Deaths following multiple operations in which there was only an incidental removal of the appendix are excluded from the corrected rate because no evidence is available to show that the incidental appendectomy contributed in any way to the patient's death.

TABLE 2.—*Total Deaths Classified*

	No. of Deaths	Death Rate, Percentage
1. Deaths following appendectomies	272	2.72
2. Deaths following drainage alone	20	0.20
3. Deaths without operation	13	0.13
4. Deaths following multiple operations and incidental removal of appendix	61	0.61
5. Deaths of persons operated on for appendicitis but appendix was not involved and another operation was performed	13	0.13
Totals	379	3.79

CAUSES OF DEATH

In the last 2,300 consecutive cases, the exact causes of the fifty-seven deaths are tabulated. All causes of death which occurred as direct results of appendicitis are called "immediate," those which had no relation to the abdominal condition are called "remote," and those in which the main pathologic condition was in another abdominal organ are called "other" causes.

In the "immediate" group of forty-one deaths, twenty-three were caused by peritonitis, eight by paralytic ileus, three by septicemia, two by peritonitis and paralytic ileus, two by peritonitis and pneumonia, two by mesenteric embolism, and one by liver abscess and pyelonephritis. In the "remote" group of fourteen deaths, nine were caused by heart disease and five by pneumonitis. Two deaths were from "other" causes designated as cholecystitis with resulting diffuse peritonitis.

In two former articles Davis [1] and Warnshuis [2] referred to the mortality for appendicitis at Providence Hospital as 12.05 per cent in acute cases and 2.8 per cent in chronic cases. These figures referred to a list of 840 cases in all, reported before 1926. In this group of cases there were 390 cases of acute appendicitis and 694 were reported as chronic. The operators numbered twenty-five. The data for these quotations were obtained from incomplete studies at that time. Interest aroused by these two quotations stimulated this detailed study of 10,000 cases over a period of one decade.

Since these articles have been repeatedly quoted, it is but fair to contrast the results of the present study, which records 10,000 consecutive cases throughout a period of ten years, with a resulting death rate of 2.92 per cent from all types of patients operated on.

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1. Davis, C. R.: Mortality in Appendicitis, J. Michigan M. Soc. **32**: 235 (April) 1933.
2. Warnshuis, F. C.: Factors Influencing Appendicitis Mortality, J. A. M. A. **86**: 469 (Feb. 13) 1926.

PLANTAIN HAY FEVER

ITS INCIDENCE AND IMPORTANCE

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The literature relative to this form of pollen sensitivity is so meager that one gets the impression that it is an uncommon cause of hay fever. However, one often encounters positive skin reactions to plantain pollen during routine testing. There exists, therefore, an evident discrepancy between the number of cases showing skin sensitivity and those exhibiting clinical hay fever to this pollen. The present study was undertaken (1) to clarify this apparent paradox, (2) to determine definite methods of establishing the clinical diagnosis, (3) to ascertain both the incidence and the importance of plantain hay fever and (4) to study the antigenic relationship of the clinically important species of the plantain family.

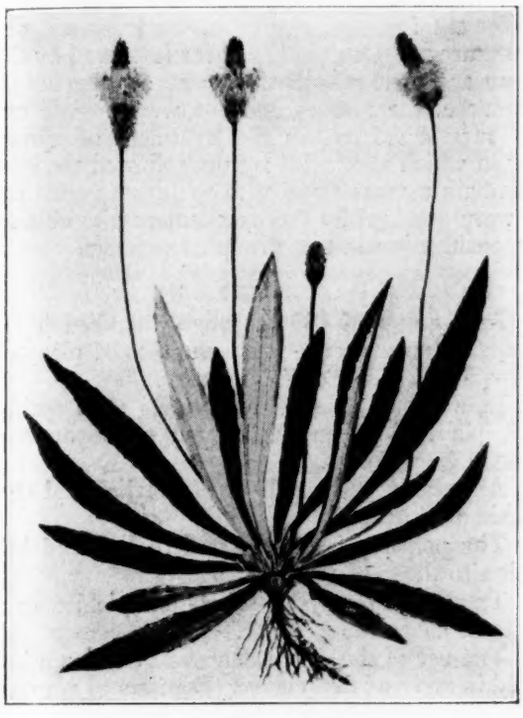
The plantain family consists of three genera and about 225 species.[1] The most important genus is Plantago, of which there are about 200 species, only twenty of which are found in the United States. The only species of the Plantago genera that are considered causes of hay fever are the English or narrow leaved plantain and the common or broad leaved plantain.

English plantain was introduced from Europe and is abundant in thickly populated sections of the United States, growing best in the moist districts.[2] It ranks on a par with most grasses as a pollen producer. There are special adaptations for getting the pollen into the

From the Allergy Clinic, Temple University Hospital and Medical School.
Read before the Section of Medicine of Philadelphia College of Physicians, Oct. 26, 1936.

1. Thommen, A. A.: Asthma and Hay Fever in Theory and Practice, Springfield, Ill., C. C. Thomas, 1931, p. 643. Michigan Agricultural College: Michigan Weeds, Experimental Station Bull. 267. Hall, H. M.: Hay Fever Plants of California, Pub. Health Rep. **37**: 803-822 (April 7) 1922.
2. Gress, E. M.: Pennsylvania Weeds, Bull. Pennsylvania Dept. Agriculture **10**, No. 12.

air. A ring of anthers containing millions of pollen grains appears at the base of the head when flowering begins.[3] The grains are hung in such a fashion that the lightest jar shakes them, thereby floating them out into the air. Pollination begins about May 15 and continues until early September, only small amounts being disseminated after July 1.



English plantain.

Common or broad leaved plantain is not nearly so abundant in the United States as is the English variety. It grows only on low, moist land. It does not bloom as early as the English variety but continues throughout the summer.

LITERATURE

Scheppegrell [4] listed plantain among the minor group of plants causing hay fever. Walker [5] considered uncomplicated plantain hay fever a rarity, having seen only two such cases in New England. Thommen [6] has seen only four plantain cases in seven years and therefore believes that it is one of the minor causes of hay fever. The only attempt to establish the incidence of this type of hay fever was Bernton's [7] study of 116 cases of hay fever. The subcutaneous test was used as a criterion for clinical sensitivity; that is, from 3 to 20 pollen units was injected subcutaneously and read as positive if an area of erythema and edema appeared within twelve to twenty-four hours. He believed that the subcutaneous test corresponded more closely with mucous membrane sensitivity than either the intracutaneous or the cutaneous test. Using the subcutaneous test and the pollen of English plantain, he found five out of 116 patients sensitive, an incidence of 4.3 per cent. Four of these five cases were from a group of twenty-four patients having vernal hay fever, an incidence of 16.6 per cent.

3. Galloway, B. T., quoted by Bernton.[7]
4. Scheppegrell, William: The Immunologic Classification of Common Hay Fever Plants and Trees, New York M. J. **117**: 721 (June 20) 1923.
5. Walker, I. C.: Frequent Causes and the Treatment of Seasonal Hay Fever, Arch. Int. Med. **28**: 71-118 (July) 1921.
6. Thommen, A. A., in Coca, Walzer and Thommen: Asthma and Hay Fever in Theory and Practice, Springfield, Ill., C. C. Thomas, 1931, p. 759.
7. Bernton, H. S.: Plantain Hay Fever and Asthma, J. A. M. A. **84**: 944-946 (March 28) 1925.

PROCEDURE

In order to ascertain the incidence of plantain hay fever it was decided to review all the hay fever cases that had come under observation at the Allergy Clinic of Temple University Hospital. The relative frequency of positive skin reactions in both the vernal and the fall types of hay fever was noted. All patients showing moderately positive skin reactions to plantain pollen were tested by the ophthalmic [8] and nasal routes,[9] the latter being our chief criterion for clinical sensitivity. These tests were especially valuable in those cases in which the clinical history was indefinite or coincided with the pollinating period of the grasses. Passive transfer tests after the method of Prausnitz-Küstner were performed on all clinically sensitive patients to determine the presence of reagins. Neutralization and cross-testing both in the passively sensitized skin sites and in the test tube were carried out to determine the antigenic relationship, if any, between English and common plantain.

RESULTS

Of the 213 cases reviewed, thirty-three were incompletely studied, leaving 180 cases that were considered sufficiently satisfactory to be included in the present report. These cases may be divided into three groups; first, those giving a history of seasonal fall hay fever, of which there were 110; second, those giving a history of seasonal spring hay fever, of which there were forty; and, finally, those giving a history of both spring and fall hay fever, of which there were thirty. The accompanying table will show that the greatest percentage of

Common plantain.

positive skin reactions occurred in the spring and fall or combined group 46.6 per cent, next in the spring group 42.5 per cent, and least of all in the fall group 18.1 per cent. Positive skin reactions occurred in 28.3 per cent of the 180 patients studied. Dry pollen ophthalmic and

8. Peshkin, M. M.: Dry Pollen Ophthalmic Test in Pollen Asthma and Hay Fever Patients Negative to Cutaneous Tests, J. Allergy **3**: 20-29 (Nov.) 1931.
9. Efron, B. G., and Penfound, W. T.: Nasal Test with Dry Pollen in Diagnosis of Seasonal Hay Fever, J. Allergy **2**: 43-47 (Nov.) 1930.

nasal tests were done in 105 of the 180 cases, or 58.3 per cent of the group. Care was taken to insure the completion of these tests in every case that yielded a positive skin reaction, so that we would not overlook an occasional patient who was clinically sensitive. It will be seen that not one case of plantain hay fever was found in those patients who had a history of seasonal autumnal hay fever only. On the other hand, seven of the forty patients with spring hay fever exhibited clinical sensitivity to plantain pollen, an incidence of 17.5 per cent, and seven of the thirty, or 23.3 per cent of the spring and fall or combined type, showed clinical sensitivity. In other words, plantain pollen was an etiologic factor in 20 per cent of the spring variety of hay fever and in 7.7 per cent of all types of hay fever.

Results of Tests

Type of Hay Fever	Number of Cases Studied	Number of Moderate or Marked Skin Reactions to Plantain	Number of Eye and Nasal Tests Performed	Number of Clinical Cases
Fall	110	20 or 18.1%	68	0
Spring	40	17 or 42.5%	19	7 or 17.5%
Spring and fall	30	14 or 46.6%	18	7 or 23.3%
Total	180	51 or 28.3%	105 or 58.3%	14 or 7.7%

Passive transfer studies with the serums of sensitive patients showed that reagins for both common and English plantain were present in all fourteen cases. When passively sensitized sites were exhausted with one of the plantains they failed to react to the other plantain extract, in each one of the eight cases studied. Likewise, when reagin-containing serums were neutralized in vitro with an equal amount of English plantain pollen (containing 0.42 mg. of nitrogen per cubic centimeter) and allowed to stand for twenty-four hours before passive transfer sites were prepared, they also failed to react to common plantain after a lapse of from twenty-four to forty-eight hours. The same was also true when each of the eight serums was neutralized with common plantain and tested with English plantain. These results indicate that the English and common plantain pollen contain a common antigenic factor. That the plantain antigen is in no way related to either timothy or ragweed was shown by our ability to obtain positive reactions to plantain after the timothy and ragweed reagins in the serums had been neutralized with timothy or ragweed pollen extract. This contention is further borne out by the fact that after neutralization with one of the plantains either by exhaustion or in vitro we were still able to obtain a positive reaction to either timothy or ragweed pollen extract.

COMMENT

One of the previous difficulties in establishing a diagnosis of plantain hay fever has been the inability to differentiate it from that of timothy or other grasses whose period of pollination coincides with that of plantain. The dry pollen ophthalmic and nasal tests provide additional methods of establishing accurate etiologic diagnoses in hay fever patients. These tests aid in detecting the presence or absence of clinical sensitivity. They manifest their greatest usefulness in distinguishing the clinical importance of those pollens in which the pollinating periods coincide.

Plantain is considered a weed by most authorities and yet it makes its appearance at the same time as the grasses. It is not at all surprising, therefore, that all our cases of clinical sensitivity to plantain pollen occurred in patients giving histories of spring hay fever. It is likewise interesting to note that we encountered five cases of uncomplicated plantain pollen hay fever, a condition considered rather uncommon by most observers.

Unsuccessful results in the treatment of spring hay fever frequently lie in the incorrect etiologic diagnosis and the subsequent error of not combining plantain pollen with the grass pollens used. That this is a requirement for good results in the treatment of combined grass and plantain hay fever is proved by the fact that no antigenic relationship exists among the pollens of plantain, the grasses and the weeds. We encountered several failures in the treatment of spring hay fever in which successful results followed the inclusion of plantain extract along with the grass pollen extract. We were gratified by the excellent results obtained by hyposensitization in this group of patients.

CONCLUSIONS

1. In a group of 180 thoroughly studied hay fever patients we encountered fourteen cases of plantain sensitivity, an incidence of 7.7 per cent.
2. In a group of seventy patients with spring hay fever, plantain pollen was found to be an etiologic factor in 20 per cent.
3. Antigenically the pollens of English and common plantain are identical.
4. The pollens of timothy and of ragweed bear no relation to those of plantain.
5. Treatment by hyposensitization yielded excellent results in all cases.
6. The use of the dry pollen nasal test is an invaluable aid in arriving at a correct diagnosis of plantain hay fever, especially when a grass hay fever coexists.

Clinical Notes, Suggestions and New Instruments

FAMILIAL CONGENITAL HEART DISEASE

PATENT DUCTUS ARTERIOSUS IN SISTERS

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Although patent ductus arteriosus or persistent ductus botalli is one of the more common forms of congenital heart disease, its occurrence in members of the same family is a rarity and hence seems worthy of reporting. The cases to be reported here were discovered during the routine examination of one of the sisters. When told of the condition and reassured about it, she stated that she was aware of the situation, that it had never perturbed her, and that her older sister had the same condition and had told her it was nothing to worry about. Accordingly the older sister was requested to report for examination.

There was no family history of cardiac disease. Neither the father nor the mother or a living brother exhibited a heart murmur.

REPORT OF CASES

CASE 1.—An unmarried white student nurse, aged 20, had no complaints. She was a full term child with a normal delivery. She was not a "blue baby." She had had diphtheria, whooping cough and measles in childhood without complications. Three years before she came under observation she had an appendectomy for an acute attack of appendicitis. Recovery was uneventful. She stated that since childhood she had noted dyspnea and palpitation on exertion, which she thought might possibly be a little more prominent than in other normal girls of her age, but she was rather vague about this. At 6 years of age a preschool examination revealed a heart murmur and she was advised to go to bed for a year. This advice was disregarded and she has led practically a normal life since.

The patient was of rather asthenic habitus. Her height was 5 feet 5¾ inches (167 cm.) and weight 115 pounds (52 Kg.). There was no cyanosis of the face or extremities or clubbing of the fingers. The positive physical signs were confined to the heart. Examination of this organ revealed a very faint systolic thrill at the base. The left border of dulness and the apex impulse were 8.5 cm. to the left of the midsternal line in the fifth interspace just inside the midclavicular line. The right border of dulness was at the right sternal margin. There was no widening of the retromanubrial dulness. There was a continuous machinery-like murmur with systolic accentuation heard all over the precordium but loudest in the second left interspace, where it was so loud that it obscured the normal first and second sounds. At the apex it was relatively quite faint. It was faintly transmitted all over the chest anteriorly as well as to the left axilla. It was heard with still more difficulty posteriorly over both interscapular regions and at the left base. It was not heard above the clavicles. The radial pulses were equal, the rhythm was regular, the rate was 78 and the vessel walls were not remarkable. The blood pressure was 100 systolic, 60 diastolic. The lungs were clear and there were no other signs of decompensation.

The Kahn and Wassermann reactions were negative. Erythrocytes numbered 4,300,000, leukocytes 7,300. Hemoglobin was 84 per cent. Blood smear and differential count were normal. The urine was normal. The electrocardiogram was normal in four leads, there being no right axis deviation. A teleoroentgenogram showed the width of the heart shadow to be within the limits of normal, the greatest transverse diameter of the thoracic cage being 28.5 cm. and that of the heart silhouette 13 cm. The pulmonary conus was not prominent.

CASE 2.—A graduate nurse, aged 28, had no complaints. She was born at term; the mother was jaundiced at delivery. Labor was prolonged but was otherwise normal. The patient was not a "blue baby." Generally her health had been good. She had typhoid at 2 years of age and catarrhal jaundice at 8, and she had been operated on for acute appendicitis when she was 12. She never had rheumatic fever, scarlet fever or diphtheria. She was subject to periodic headaches. There had been no signs or symptoms of cardiac decompensation. She stated that since childhood she had always had the "feeling of a little stream of water about the size of the stream from a hypo needle" in the region of the second left intercostal space. This had varied somewhat in intensity but had never been entirely absent. She had thought this normal until she was 14 years of age, when she was confined to bed for a few days because of an "upset stomach." The heart murmur was discovered then for the first time. Although prolonged rest in bed was recommended, she continued to lead a fairly normal existence. Her history otherwise is negative.

The patient was undernourished, her height was 5 feet 4½ inches (163 cm.) and her weight 96 pounds (43.5 Kg.). There was no cyanosis of the face or extremities and no clubbing of the fingers. The neck veins were not distended. The positive signs were confined to the heart and in this respect she was almost a "carbon copy" of her sister. There was a faint continuous thrill with systolic accentuation to the left of the sternum in the region of the first and second ribs. The left border of dulness and apex impulse were 7.5 cm. to the left of the midsternal line in the fifth interspace. There was no widening of the retromanubrial dulness. There was a continuous machinery-like murmur with systolic accentuation heard all over the precordium but loudest in the first and second interspaces to the left of the sternum; there it was very loud. The murmur was relatively quite faint but audible at the apex. The normal first and second heart sounds could be heard only at the apex. At the base they were obscured by the murmur. The systolic portion of the murmur was transmitted to all parts of the chest, but anteriorly in the left side of the chest and in the left axilla both systolic and diastolic portions were heard. It was not transmitted above the clavicles. It will be seen that the only difference in the signs presented on examination of the two hearts is the extent to which the diastolic portions of the thrill and murmur are transmitted. The radial pulses were equal, the rhythm regular and the rate 80 per minute. The blood pressure was 106 systolic, 60 diastolic. The lungs were clear, and examination revealed no other abnormalities.

The Kahn and Wassermann reactions were negative. The blood count was normal except for slight secondary anemia. The electrocardiogram was normal in four leads, there being no right axis deviation. A teleoroentgenogram showed the width of the heart shadow to be at the upper limit of normal, the greatest transverse diameter of the thoracic cage being 21 cm. and that of the heart silhouette 10.5 cm. The pulmonary conus was not prominent.

COMMENT

The occurrence of such a congenital anomaly in members of the same family is of particular interest in view of the paucity of reports in the literature of such occurrences. However, the familial incidence of congenital abnormality of the heart was noted over a century ago and at least one such observation was described some forty years before the publication of the first book on congenital heart disease by Peacock[1] in 1858. Tedesco[2] in reporting two cases of familial congenital heart disease in sisters, one with an interventricular septal defect and pulmonic stenosis, the other with an interventricular septal defect and mitral stenosis, gave a concise summary of the literature on this topic:

"The first observation [on record] is that of Cooper and Englenot (1818), who speak of twelve brothers, most of whom presented from birth indubitable signs of heart disease. Two of these died at a rather advanced age, and necropsy revealed a definite stenosis of the isthmus of the aorta, persistence of the ductus botalli and perforation of the superior part of the interventricular septum, while the pulmonary artery, was derived simultaneously from the two ventricles, straddling, as it were, the abnormal communication. Friedberg (1844) speaks of three babies belonging to the same family affected with congenital cyanosis. Orth (1880) cites the observation of two babies of the same father but of different mothers, who presented congenital malformation of the heart. Potocki (1886) was able to observe different members of two generations of the same family who presented the same cardiac malformation. De La Camp (1903) noted in two sisters and four brothers congenital malformations of the heart, identical in every respect. Saller (1905) cites the case of a family in which five babies of the first marriage were affected with congenital cyanosis, while the mother, having married the second time, brought forth normal children. Interesting also is the observation of Burwinkel: a man 54 years of age, cyanotic from birth, as were his mother and grandmother, who, having married, had three children, two of whom were cyanotic due to congenital heart disease. Hess and Pearce (1917) refer to three cases of congenital cyanosis in three babies of the same family. Debré (1891) writes of a mother and child, both of whom were affected with maladie de Roger. Appert and Cambessedes (1930) mention a mother and two children (of different marriages), all three of whom were affected with congenital cardiac malformation, and recently Robbiosi calls attention to three brothers with congenital cyanosis."

The most recently published report is that of Ellis.[3] Two sisters, aged 9 and 5 respectively, presented signs which are to be interpreted as patent ductus arteriosus. Both had loud systolic murmurs at the base with prominence of the pulmonary conus in the roentgenogram. Dr. Carter Smith[4] reports two brothers, aged 4 and 6, with congenital deformity of the pulmonic valve, noncommunicating.

In both of the cases reported here the diagnosis was obvious because of the characteristic murmur which they exhibited, although neither presented the important confirmatory sign, prominence of the pulmonary conus in the roentgenogram. There is of course the possibility that one or more other malformations may accompany the patent ductus in both instances, but on the available evidence this cannot be certainly the case. It is probable that the degree of patency is comparable in the two and that the abnormal communication between the aorta and the pulmonary artery is relatively small. This is attested by the loudness of the murmur and the absence of any considerable dilatation of the pulmonary conus. The latter condition is due to the increased pressure in the pulmonary artery and, when it occurs, is the result of a relatively free or large communication between this vessel and the aorta.

1. Peacock, T. B.: On Malformations of the Human Heart, with Original Cases, ed. 1, London, John Churchill & Sons, 1858, ed. 2, 1866.
2. Tedesco, P. A.: Su due casi di cardiopatia congenita familiare, Cuore e circolaz. **17**: 76-93 (Feb.) 1933.
3. Ellis, R. W. B.: Congenital Morbus Cordis in Two Sisters, Proc. Roy. Soc. Med. **26**: 511-512 (March) 1933.
4. Smith, Carter: Personal communication to the author.

It is evident that the defect has caused neither of the patients any considerable disability. Although both are somewhat underweight, and this is probably incidental, their health has not been otherwise impaired. In this connection, witness the major operation which both underwent without complications. Contrary to the advice of their physicians, they have led practically normal lives since first the murmurs were discovered. They are probably fortunate in this respect in that they have thereby been spared lives of needless invalidism.

In view of the definite hazard of a superimposed subacute bacterial endocarditis on the existing lesion and of pulmonary tuberculosis, it is extremely important that the general health and resistance of these patients be built up and maintained at the highest possible point by the usual hygienic and dietary measures.

1103 Bell Building.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS. HOWARD A. CARTER, Secretary.

HOGAN BREVATHERM SHORT WAVE DIATHERMY UNIT, CLINIC MODEL 8820 (TWO-TUBE) ACCEPTABLE

Manufacturer: McIntosh Electrical Corporation, Chicago.

This unit is recommended for medical and surgical diathermy. It is essentially the same as the Hogan Brevatherm Short Wave Diathermy Unit, Model 8800 (Two-Tube), the acceptance of which was recorded in THE JOURNAL, May 9, 1936, page 1660. The firm states that the difference between Model 8800 and Model 8820, the unit under consideration, is a change in the circuit as well as the wavelength, Model 8820 employing an ultra-audion circuit with a wavelength of 18 meters.

Model 8820 calls for the upper cabinet housing the mechanism and the standard accessories; the firm states that the model number is modified to 8821 when the mobile subcabinet is included.

The apparatus is mounted in a wooden cabinet and all working parts are mounted on a chassis, readily removable from the cabinet for inspection and repairs. The oscillator or tank coil is insulated from the wooden chassis by means of ceramic standoff insulators. The circuit employed is a variation of the Colpitts group.

Hogan Brevatherm Short Wave Diathermy Unit, Clinic Model 8820.

Inductance of the patient's circuit is inductively coupled to the oscillator or tank coil. Sufficiently loose coupling is employed to prevent overloading of the tubes.

Frequency of the current is about 16.6 megacycles per second, which corresponds to a wavelength of approximately 18 meters. Under maximum load, the power input is about 850 watts.

The firm was asked to submit evidence from a reliable investigator to substantiate the claims made for the unit. Using human subjects, the heating effect of the tissues in the thigh was observed. Both cuff and cable electrodes were used. Nine men, ranging in age from 23 to 31 years, were obtained for the experiments. Temperature measurements were observed by hypodermic needle thermocouples, manufactured by the Leeds and Northrup Company, and the Portable Precision Potentiometer made by the same company. The skin temperatures were observed on two disk thermocouples made especially for the work. All these thermocouples were checked against a Bureau of Standards thermometer, reading to one-tenth degree Centigrade.

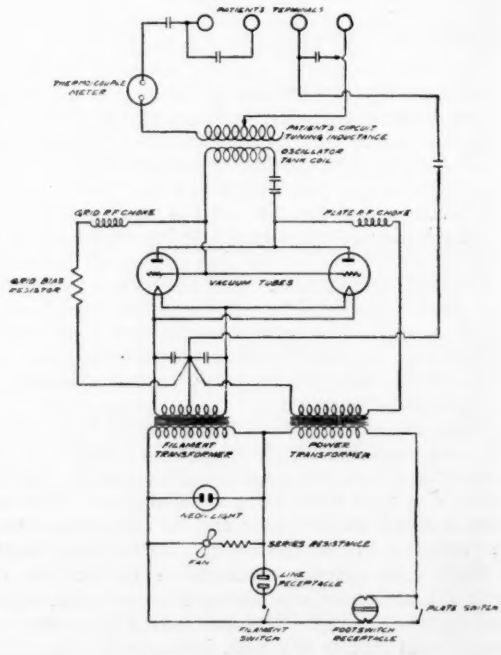
Hypodermic needle electrodes were inserted before turning on the current and immediately after shutting it off. In all tests the current was turned on for exactly twenty minutes. One needle was inserted from 1½ inches to 2 inches, depending on the thickness of the thigh; the other needle was inserted subcutaneously, just beneath the skin structure. The cable was wrapped around the thigh four and three-fourths times. First, however, two towels were wrapped around the thigh, and then an extra towel was folded and placed on the superior surface of the thigh, on which the cable rested. Cuff electrodes of size 2 inches wide, one-half inch thick and 24 inches long were wrapped around the thigh, one distal to the hip and the other proximal to the knee, with two towels next to the skin and a one-half inch flannel between the towels and the electrodes.

Averages of Nine Observations

	Skin Temperature Under Electrode		Deep Muscular Temperature		Oral Temperature	
	Initial	Final	Initial	Final	Initial	Final
(cuffs)	93.5	101.3	98.6	103.2	98.7	98.7
(cable)	87.5	95.2	98.6	105.9	98.9	99.1

Results indicate that the temperature rise with the aforementioned method of application is considerably above what can be expected in the application of conventional diathermy—with a metal electrode on the medial aspect of the thigh and another metal electrode on the lateral aspect—the method of application that has been adopted as a minimum standard of acceptance.[1]

Temperature rise of the plate power transformer and the filament transformer after the machine had been operated at full load for two hours came within the limits of safety prescribed by the Council. The shipping weight of the apparatus is about 77 pounds. Burns may be produced but may be avoided by ordinary precaution. Their likelihood to occur is less than with conventional diathermy, employing metal electrodes.



Schematic Diagram of Circuit.

The machine was used in a clinic acceptable to the Council and was operated under actual clinical conditions. It was reported as giving satisfactory service.

In view of the favorable report based on the performance of this unit when employing cuff electrodes, the Council on Physical Therapy voted to include the Hogan Brevatherm Short Wave Diathermy Unit, Clinical Model 8820 (Two-Tube), in its list of accepted devices.

1. Mortimer, Bernard, and Osborne, S. L.: Tissue Heating by Short Wave Diathermy, J. A. M. A. **104**: 1413 (April 20) 1935.

HIGH TENSION DIATHERMY UNITS (MODELS 440 AND 480) ACCEPTABLE

Manufacturer: High Tension Corporation, New York.

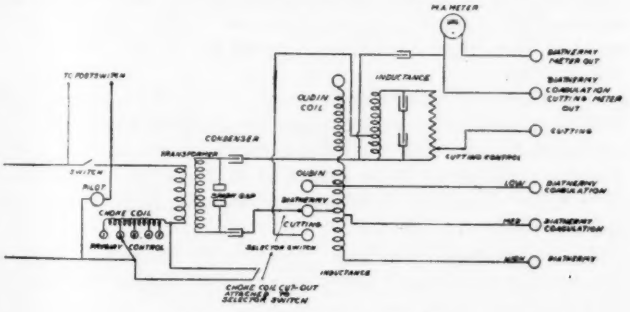
These high tension diathermy units, designed for medical and surgical diathermy, are recommended for service in physicians' offices and in clinics.

The electrical circuit was examined carefully and found to be efficient and reliable. The manufacturer submitted data containing a report of tests of the Model 480 for power input and output, and for its spark gap and transformer temperature rise. The results recorded in the data were in agreement with the observations conducted by an investigator for the Council and were in conformity with the standards for diathermy machines previously established. The input power required for these units is between 135 and 230 watts. Their frequency varies from 890 to 1,420 kilocycles per second, which corresponds to wavelengths between 211 and 37 meters.

High Tension Diathermy Unit, Model 480.

The High Tension Diathermy Unit, Model 480, was tried out in a clinic acceptable to the Council. It was found to be satisfactory and met the requirements of the Council.

Model 440 is constructed essentially the same as Model 480 as far as electrical and mechanical characteristics are concerned, the difference being that Model 440 is designed for medical diathermy coagulation and desiccation, whereas Model 480 is also equipped with cutting current.



Schematic diagram of circuit.

The Council therefore voted to include the High Tension Diathermy Units, Models 440 and 480, in its list of accepted apparatus.

CROSLEY XERVAC—PRELIMINARY REPORT

Manufacturer: The Crosley Radio Corporation, Cincinnati.

According to the firm, the Crosley Xervac is an apparatus developed by Dr. Andrew A. Cueto for stimulating the growth of hair. The firm writes: "It [Xervac] is designed to stimulate and aid the growth of hair, and develop a healthy condition of hair and scalp by increasing the efficiency of the circulation of blood in the deep tissues of the scalp. This is accomplished by alternating positive and negative (vacuum) pressures which may be varied to suit the individual case."

The apparatus consists of a compressor and a vacuum pump, controls to regulate the pressures, and a helmet through which these pressures are applied to the scalp. It may be operated either by alternating or by direct current.

The theory, according to the firm, is that alternate vacuum and pressure of extremities of the body build up the deep network of blood vessels, thus supplying blood in sufficient quantities to desired points. This theory was claimed to be substantiated by a number of persons who have been treated in a clinic to indicate that development of the deep network of blood vessels in the scalp quite actively stimulates the growth of normal hair from hair follicles which heretofore had not been producing such hair.

Two of these units have been submitted to the Council on Physical Therapy for investigation along with an article which was published in the *Journal-Lancet*, Minneapolis (**56**:571 [Nov.] 1936). In brief, the Council calls attention to the following points in connection with the Xervac:

1. Insufficient evidence has come to the attention of the Council to substantiate the alleged physiologic action.

2. The number of cases reported is insufficient on which to determine the usefulness of the device or to show what types of baldness, if any, respond favorably.

3. Insufficient evidence is presented to determine harmful effects, if any, connected with its use.

In view of the lack of critical evidence, physicians are advised for the present not to acquire the machine.

The Council therefore voted the Xervac inadmissible for inclusion in the list of accepted devices but will reconsider the apparatus without prejudice, if scientific evidence is submitted.

The Chemical Laboratory

THE FOLLOWING IS A REPORT OF THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION. P. N. LEECH, Director.

DENICOTEA

Two packages of Denicotea were submitted to the A. M. A. Chemical Laboratory for examination. One package contained one cigaret holder and ten cartridges. The cartridges were presumed to contain a silica gel to remove the nicotine and other ingredients in tobacco smoke. The label gave the following information:

> "Smoke the healthy way.
> Denicotea
> assures you:
> sound heart, sound lungs, sound nerves, white teeth, unstained fingers."

The second package contained ten cartridges. The label stated in French that the toxins of tobacco (nicotine, pyridine, ammonia and resinous acids) were removed from the smoke.

The cigaret holder was fashioned with a cavity in which a tube case could be inserted. The tube cases were colorless, brittle cylinders containing colorless, granular material. Qualitative tests showed the presence of silicic acid in the granular material.

After "smoking" four cigarets, the case and granular material had adsorbed a brown material with an odor of stale tobacco. This was partially soluble in water, ether, alcohol and chloroform. Qualitative tests indicated the presence of nicotine and traces of cyanides, pyridine and resinous material; ammonia was not found. Resinous material was found in the smoke after it had passed through the tube case.

For the determination of nicotine, average smoking conditions were reproduced as closely as possible. The smoke was "puffed" for ten seconds at intervals of ten seconds through the holder and passed through three wash waters. Eighteen puffs were taken and all but one inch of each cigaret was burned. The amount of nicotine in the water was determined by the method of Hofman (*Biochem. Ztschr.* **260**:26, 1933). Two brands of cigarets were used.

Quantitative determinations yielded the following:

Nicotine per cigaret without filter (brand A).....0.0017 Gm.
Nicotine per cigaret without filter (brand B).....0.0020 Gm.
Nicotine passed by filter for average one of first four brand A cigarets .....0.00068 Gm. (40.1 per cent)
Nicotine passed by filter for average one of four brand A cigarets after six had been smoked.....0.00082 Gm. (49 per cent)
Nicotine passed by filter for average one of first four brand B cigarets .....0.0011 Gm. (53 per cent)
Nicotine passed by filter for average one of four brand B cigarets after four had been smoked.0.0014 Gm. (62 per cent)

From the foregoing figures it may be calculated that under ordinary conditions Denicotea removes approximately 60 per cent of the nicotine from the smoke of brand A cigarets when a new case is used and approximately 50 per cent after nine

cigarets are smoked. It removes approximately 47 per cent from the smoke of brand B cigarets when new and approximately 40 per cent after seven cigarets have been smoked. It removes cyanides, pyridine and some of the resinous material from smoke. According to the experiments, the product is approximately 60 per cent efficient on the first smoke and its efficiency decreases, so that by the time twenty smokes are made through the same cartridge it would appear that there would be no appreciable denicotinizing effect at the end of the series.

Council on Pharmacy and Chemistry

REPORT OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS. PAUL NICHOLAS LEECH, Secretary.

STANDARDIZATION OF DIGITALIS PRODUCTS ACCEPTED FOR N. N. R.

The Council has given extensive consideration to the question whether all the digitalis and digitalis-like preparations listed in New and Nonofficial Remedies should be standardized by the official U. S. P. method, even though they are also assayed biologically by any other acceptable method.

The various firms concerned were consulted and their replies were reported to the Council.

In the discussion based on these replies it was the consensus of the Council that, if two methods of assay do not give concordant results, more harm than good will be caused by creating the impression that a given preparation is standardized by both methods, for in the end its potency would be adjusted by one or the other and not by both. It is well known that many of the leading cardiologists and cardiac clinics employ the dosage recommended by Eggleston, which is based on the cat method of assay. No one, as far as it is known, has established an equally dependable therapeutic dosage based on frog units. In this connection it may be stated that digitalein and digitoxin are of approximately equal activity when assayed by the frog method, but digitoxin is ten times as active as digitalein when assayed by the cat method. Digitoxin is absorbed very well from the gastro-intestinal tract of man, digitalein is not.

The Council voted that manufacturers of digitalis and digitalis-like preparations be not required to change the method of standardizing such products as are now assayed by a satisfactory method.

GLUTAMIC ACID HYDROCHLORIDE-CALCO NOT ACCEPTABLE FOR N. N. R.

Glutamic Acid Hydrochloride-Calco was presented by the Calco Chemical Company for the Council's consideration as "a superior source of free hydrochloric acid for the treatment of Achlorhydria, Hypochlorhydria, Achylia Gastrica, Nervous Anorexia and Anemias (Requiring a High Protein Diet) and to Supplement or Replace Gastric HCl where such action is desirable." It is a solid substance which was presumed to yield hydrochloric acid when dissolved. A solid substance has an advantage in that it may be more easily transported by the patient. Glutamic acid hydrochloride has the formula:

$$\begin{array}{l} \text{HOOC.CH}_2\text{.CH}_2\text{.CH.COOH} \\ \qquad\qquad\quad | \\ \qquad\qquad \text{NH}_2\text{.HCl} \end{array}$$

The firm submitted a considerable amount of chemical data concerning the product but presented no references to the literature or other evidence of its clinical effectiveness as a conveyor of hydrochloric acid. The firm was informed that the Council was disposed to accept the product as a conveyor of hydrochloric acid, provided claims of superiority, as such, were not made; provided therapeutic claims for glutamic acid per se were not made; provided the product met the approval of the A. M. A. Chemical Laboratory, and provided no further conflicts arose.

The firm replied by sending advertising containing no claims for glutamic acid per se, nor any claims of superiority of the hydrochloride as a conveyor of hydrochloric acid, thus meeting two of the Council's objections.

The A. M. A. Chemical Laboratory found that the product complied with chemical tests and standards submitted by the firm. In view of the fact that the firm apparently based its opinion as to the usefulness of the product on laboratory assays, which did not include digestion experiments, the A. M. A. Chemical Laboratory was requested to undertake further examination, particularly with reference to the effectiveness of the compound as an acidifying agent in artificial digestion tests. The experiments were conducted in accordance with the U. S. P. X. Glutamic Acid alone was used in some experiments; in others, the solutions were adjusted to a hydrogen chloride content equal to 0.2 per cent hydrochloric acid, while in others the hydrogen ion concentration was rendered equivalent to that of 0.2 per cent hydrochloric acid (Glutamic Acid Hydrochloride contains three ionizable atoms—one due to the hydrogen chloride, and two to the glutamic acid). Controls were carried out with 0.3 per cent hydrochloric acid. Egg white was used as the substrate throughout. After many experiments the Laboratory came to the conclusion that glutamic acid hydrochloride inhibits peptic digestion in vitro.

The use of glutamic acid hydrochloride as a solid source of hydrogen chloride for peptic digestion is not new. More than ten years ago the Laboratory examined a brand of glutamic acid hydrochloride marketed by a well known pharmaceutical manufacturer under a trade name. The conclusions of the Laboratory were conveyed to that firm with the inquiry as to whether or not it had laboratory or clinical evidence for the value of its product. According to the firm's reply, its results confirm in general the observations of the A. M. A. Chemical Laboratory.

The Calco Chemical Company was informed that the Council felt itself unable to accept Glutamic Acid Hydrochloride for inclusion in New and Nonofficial Remedies unless more satisfactory evidence could be presented in favor of its usefulness. The Calco Chemical Company replied at length,[1] summarizing its contentions as follows:

1. The material has been shown to be definitely useful in stimulating gastric acid secretion and initiating normal gastric and duodenal function.

2. The material is a useful and convenient form of acid for substitution therapy.

3. The material does not inhibit gastric peptic secretion, although some diminution of peptic digestion does result, in vitro.

4. The material may be most effectively presented in an ethical manner by acceptance in New and Nonofficial Remedies.

The Council's referee, after careful study of the firm's reply, reported to the Council as follows:

"With respect to 1, the firm has not shown that glutamic acid hydrochloride stimulates gastric acid secretion or initiates normal gastric and duodenal function. The statement under 2 is only partly correct. Admittedly, glutamic acid hydrochloride would be a convenient form of substitution therapy provided it accomplished the purpose for which it is intended. That it is useful has not been demonstrated. With regard to 3, the firm has not shown that glutamic acid hydrochloride does not inhibit gastric peptic secretion, although the referee is willing to admit that the statement is probably correct. He agrees with the firm that peptic digestion in the presence of glutamic acid hydrochloride does not proceed as rapidly as in the presence of hydrochloric acid. Conclusion 4 requires no comment."

The firm stated that it intended to market the product whether accepted or unaccepted by Oct. 1, 1936. In view of the fact that the firm's reply furnished no conclusive evidence as to the usefulness of the product and that the investigations of the A. M. A. Chemical Laboratory cast considerable doubt on the therapeutic value claimed for it, the Council was obliged to declare it unacceptable for New and Nonofficial Remedies and to authorize publication of the foregoing report for the information of the medical profession.

1. Citing the work of Shay (Ann. Int. Med. 9: 1628 [June] 1936) on the influence of glutamic acid hydrochloride on the titrable acidity of stomach contents.

REPORTS OF OFFICERS

NOTE.—At the 1925 session of the Association, the House of Delegates suggested that all reports of officers, committees, etc., and resolutions to be brought before the House, if available, be published in advance of the session so as to permit careful consideration and discussion.—Ed.

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the American Medical Association:

The following report of the Secretary is respectfully submitted:

MEMBERSHIP

The number of members enrolled on April 1, 1937, was 105,460. This enrolment is based on official reports received from the secretaries of constituent state and territorial medical associations and constitutes a new membership record. The number of enrolled members reported to the House of Delegates at the Kansas City session as of March 1, 1936, was 101,946.

It is quite probable that the number of members enrolled on the official membership list of the American Medical Association on April 1, 1937, is larger than the number of members actually enrolled on the same date on the official lists of the constituent state and territorial medical associations. In some states the names of members in arrears are dropped from the membership rolls on January 1, while in other states membership does not officially lapse on account of arrearages in payment of dues until some later date. Because of the interval between the time when names of members are actually removed from or added to the state association rolls and the time when notification of such changes reaches the office of the Secretary it is not possible to maintain exact uniformity in membership records. However, experience shows that in most instances the names of members temporarily suspended for nonpayment of dues are soon restored to official membership lists.

FELLOWSHIP

The number of Fellows of the Association, as shown by the official roster on April 1, 1937, was 66,296, as compared with 62,997 reported to the House of Delegates at the Kansas City session as of March 1, 1936.

As a part of this report, a table is presented which indicates the number of counties in each state and territory, the number of component societies as shown by the records in the Secretary's office, the number of members enrolled in the constituent associations at the time the count was made for the purposes of this table, and the number of Fellows, including Honorary Fellows and commissioned officers of government medical services.

REAPPORTIONMENT OF DELEGATES

Under the provisions of section 3, chapter I, of the By-Laws, it is required that a reapportionment of delegates shall be made every third year. The last reapportionment was made at the Cleveland session in 1934 for the years 1935, 1936 and 1937, and it will therefore be necessary to make a reapportionment at this annual session for the years 1938, 1939 and 1940.

AMERICAN MEDICAL ASSOCIATION BULLETIN

Publication of the AMERICAN MEDICAL ASSOCIATION BULLETIN has been discontinued by order of the Board of Trustees, and a special section known as the Organization Section of THE JOURNAL has been substituted. For a number of years the BULLETIN was issued as a monthly periodical during nine months of each year but did not serve as a satisfactory medium for the timely publication of important information pertaining to organization and medical economics. The circulation of the BULLETIN was limited almost entirely to Fellows of the Association, whereas THE JOURNAL reaches directly a much greater number of physicians than is included in the Fellowship of the Association and, as a weekly publication, provides facilities for more timely presentation of matters of general interest.

Organization of Constituent State Associations

	Number of Counties in State	Number of Component Societies in State	Organization of Constituent State Associations					
			Number of Counties Not Organized		No. of Physicians in State, 14th Ed. A. M. A. Directory	Number of Members of State Associations		Number of Fellows in State
			1936	1937		1936	1937	
Alabama	67	67	0	0	2,105	1,457	1,472	531
Arizona	14	12	1	1	520	277	316	227
Arkansas	75	63	9	9	1,911	1,069	1,051	415
California	58	39	10	10	10,859	5,382	5,695	3,744
Colorado	63	28	0	0	1,933	1,132	1,139	743
Connecticut	8	8	0	0	2,401	1,569	1,543	1,015
Delaware	3	3	0	0	316	200	198	126
Dist. of Columbia	..	..	..	..	1,979	737	783	603
Florida	67	32	23	23	1,939	1,081	1,178	630
Georgia	161	95	46	48	2,765	1,689	1,807	676
Idaho	44	9	0	0	410	234	257	149
Illinois	102	93	7	6	11,672	7,085	7,287	4,656
Indiana	92	83	2	1	4,025	2,834	2,958	1,665
Iowa	99	97	0	0	3,146	2,295	2,416	1,421
Kansas	105	67	28	21	2,188	1,417	1,529	1,098
Kentucky	120	114	3	4	2,770	1,708	1,712	770
Louisiana	64	39	18	19	2,135	1,256	1,328	724
Maine	16	15	1	1	966	698	700	401
Maryland	23	22	1	1	2,730	1,368	1,379	858
Massachusetts	14	18	0	0	7,263	4,827	4,962	3,060
Michigan	83	54	1	0	5,865	3,661	3,742	2,312
Minnesota	87	33	1	2	3,283	2,202	2,347	1,513
Mississippi	82	24	1	1	1,515	1,200	995	319
Missouri	114	82	9	12	5,496	3,145	3,201	2,030
Montana	56	15	26	26	483	340	339	218
Nebraska	93	49	20	20	1,781	1,093	1,069	732
Nevada	17	5	12	12	149	104	101	63
New Hampshire	10	10	0	0	503	490	455	259
New Jersey	21	21	0	0	5,177	3,036	3,193	2,263
New Mexico	31	12	19	19	401	209	236	155
New York	62	61	1	1	24,013	14,375	15,047	9,867
North Carolina	100	84	3	2	2,570	1,557	1,591	781
North Dakota	53	13	10	10	526	385	387	266
Ohio	88	86	0	2	8,907	5,334	5,361	3,588
Oklahoma	77	65	7	7	2,380	1,494	1,524	824
Oregon	36	23	3	3	1,344	742	755	469
Pennsylvania	67	60	6	6	12,889	8,415	8,588	5,721
Rhode Island	5	6	1	1	924	501	488	364
South Carolina	46	39	0	0	1,335	791	874	364
South Dakota	69	12	11	3	562	332	323	190
Tennessee	95	58	26	26	2,939	1,688	1,669	786
Texas	254	135	14	12	6,729	4,024	4,159	2,046
Utah	29	9	3	4	543	398	416	248
Vermont	14	10	3	3	503	374	376	207
Virginia	100	47	10	9	2,734	1,732	1,725	956
Washington	39	24	14	13	2,049	1,267	1,398	823
West Virginia	55	29	5	5	1,792	1,223	1,194	643
Wisconsin	71	52	1	0	3,387	2,215	2,349	1,544
Wyoming	24	13	10	10	261	141	143	103
Alaska	..	..	..	..	56	20	37	17
Hawaii	5	4	1	1	378	262	257	124
Isthmian Canal Zone	..	..	..	..	187	109	95	18
Phillipine Islands (provinces)	56	11	44	45	2,783	446	969	44
Puerto Rico (districts)	7	7	0	0	415	326	347	75
Foreign	..	..	..	..	23	...	...	191
Total	3,141	2,057	411	399	169,005	101,946	105,460	63,635
Commissioned medical officers								2,661
								66,296

ANNUAL CONFERENCE OF SECRETARIES OF CONSTITUENT STATE MEDICAL ASSOCIATIONS

The Annual Conference of Secretaries of Constituent State Medical Associations convened in Chicago in November 1936. All meetings were held in the new Assembly Hall in the Association's building. Nearly all the secretaries of the state

associations attended the conference, and with very few exceptions the editors of the official state medical journals were present. In addition there were in attendance a number of officers and members of official bodies of state associations and county societies, as well as the members of the Board of Trustees and of the administrative personnel of the American Medical Association.

This annual conference offers an opportunity for the executive officers of state medical associations and the editors of state medical journals to consider together problems of common interest, to secure information concerning methods and procedures that are used most effectively in organizational matters in the several states, and to familiarize themselves with the facilities of the American Medical Association that can be used for the benefit of the component and constituent units of the organized profession in the United States. The conference also provides opportunity for the members of official bodies and of the administrative personnel of the American Medical Association to secure first hand information concerning the problems with which state and county medical societies are immediately concerned and to obtain the benefit of suggestions and criticisms that may be useful in planning for the extension and helpfulness of the service of the national organization.

OFFICIAL CONTACTS

The number of visits made by members of the official and administrative personnel of the Association to meetings of medical societies in all parts of the country was considerably larger in 1936 than in any previous year. The elected officers, members of various councils and of other official bodies, and members of the administrative personnel of the Association have served as representatives of the Association at meetings or official conferences held in practically every state in the Union. The demand for field service of this nature is constantly increasing and at times has been almost overwhelming.

The number of invitations extended to official representatives of the Association to appear before important lay groups in various states is growing each year. As far as it has been possible, invitations received from medical societies and from influential lay organizations have been accepted, and a very earnest effort has been made to render the best service possible in the interest of better organization in the states and in furthering educational programs of component and constituent societies.

RESOLUTIONS TO BE SUBMITTED TO THE HOUSE OF DELEGATES

The following resolutions have been forwarded to the Secretary by Dr. Burt R. Shurly, delegate from the Section on Ophthalmology, for inclusion in the Secretary's report, in accordance with official action taken by the House of Delegates several years ago:

WHEREAS, The family physician has labored for these many years without full recognition of his valuable services; and

WHEREAS, The various school systems of the United States depend on the family doctor for the prevention and diagnosis of disease and the protection of the public; therefore be it

Resolved, That the school boards and authorities in charge of the school systems all over our country be respectfully requested to enter and file on the index card of every school child the name and address of the chosen family doctor; and be it further

Resolved, That the designated family doctor, together with the parents or guardians of the child or in their absence, be informed of any emergency that may befall the child in the schools of this country.

The office of the Secretary has continued to receive most helpful assistance from the secretaries and other officers of state, territorial and county medical societies, from the members of the various official bodies of the American Medical Association, including the House of Delegates, and from a large number of individual physicians in all parts of the country, for which sincere and grateful acknowledgment is hereby offered.

Respectfully submitted. OLIN WEST, Secretary.

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

On June 20, 1936, Dr. James Tate Mason, who became President of the American Medical Association on May 12, 1936, died at his home in Seattle. That Dr. Mason had won a high place in the respect, esteem and affection of the members of the American Medical Association was clearly shown by the beautiful tribute that was paid to him by the House of Delegates when he was declared President of the American Medical Association, even though absent from the annual session at which he was to be formally installed into that office. Through Dr. Mason's death, the Association was deprived of the benefit of the willing and efficient service which he was prepared to render as its chief officer.

The Board of Trustees is glad to report to the House of Delegates that a properly designed scroll certifying to the action of the House of Delegates whereby Dr. Mason was proclaimed President of the American Medical Association was delivered to him in person before his death. A properly engraved gold medal, a copy of which is presented each year to the retiring President, could not be prepared in time for presentation to Dr. Mason himself but was forwarded to Mrs. Mason.

At the regular official meeting of the Board of Trustees held in Chicago on September 24, 1936, Dr. Charles Gordon Heyd of New York, elected Vice President of the Association by the House of Delegates at Kansas City, was declared President to serve in that capacity until the next annual session. The splendid and devoted service which Dr. Heyd has rendered in carrying out the duties of President of the American Medical Association has thoroughly justified this action, and the Board of Trustees desires to express its grateful appreciation of the wise counsel and the able assistance that Doctor Heyd has given to the Board in its consideration of matters demanding official attention.

Business Operations

For the twelfth consecutive year, the Board of Trustees is reporting to the House of Delegates an increase in the activities of the various councils, bureaus and departments of the Association. A marked increase in the number of members, a greater interest in organizational affairs on the part of physicians and a more widespread and more intelligent interest in medicine and in the public health on the part of the lay public are some of the factors that have produced a much greater demand for services of the kind which, in all probability, no other agency than the American Medical Association can provide. Changing social conditions and changes in the attitude of government toward medical and public health affairs, a constantly advancing knowledge of the scientific aspects of medicine and new problems growing out of important social changes affecting most of the relations of medicine have all contributed to the volume of inquiries, requests for information and appeals for aid of one or another kind that have at times greatly taxed the facilities of the Association.

The number of employees of the Association at the time of the preparation of this report was 565.

As will be seen from the Auditor's Report, which, with the Treasurer's Report, is submitted herewith, the gross earnings for the year ended Dec. 31, 1936, amounted to $1,547,218.23, as compared with $1,493,472.19 in the preceding year. Miscellaneous income, including income from investments, amounted to $95,722.86. Operating expenses for the year were $909,417.95, while Association expenses, including those incident to the operation of councils and bureaus, amounted to $411,028.93, and miscellaneous expenses were $209,382.37. The net income for the year was $113,111.84, of which amount $80,844.60 represented income from investments. Because of prevailing low interest rates, income from investments was less than in 1935.

Amounts expended for wages and salaries, for paper, for postage and for miscellaneous operating expenses were considerably larger than in previous years, and there were small increases in expenditures on other specific accounts. Decreased expenditures were recorded with respect to some items, but in practically all instances such decreases were small.

Expenditures for legal services and investigations were very considerably larger in 1936 than in 1935 because of suits brought

against the Association, all of which with one exception, have been withdrawn or have been dismissed by courts.

It is now apparent that operating costs will be considerably larger in 1937 than in 1936, because of higher costs of paper and other commodities.

The purchase of new machinery and equipment during the current year probably will require expenditures of from $50,000 to $70,000, of which approximately $33,000 will be required for the purchase of a new gathering machine to replace outworn equipment.

Summary

Gross earnings and miscellaneous income were larger in 1936 than in 1935. Expenditures for wages and salaries and for paper were notably larger than in the preceding year. Income from investments was smaller by approximately $3,000 than in 1935. Net income for 1936 was $113,111.84, of which sum $80,844.60 was income received from investments.

Building and Equipment

During the year radical changes were made in the building of the Association located at 535 North Dearborn Street in Chicago. Two entirely new stories were added to the building, and an Assembly Hall and a large committee room were constructed above the eighth floor. Important alterations were made on all other floors. A full, detailed description of the building has appeared in the columns of THE JOURNAL. As a result of the enlargement and improvements, it has been possible to place the Editorial Department and the Library on one floor and to bring together other departments the activities of which are closely related. It has also been made possible to provide much needed room and better facilities for practically all departments, and there is now available space that can be used when further expansion may be necessary.

The new Assembly Hall is large enough to be used for meetings of the House of Delegates, for the Annual Conference of Secretaries of Constituent State Medical Associations and for the accommodation of other meetings as occasion demands. Congestion in the mechanical departments has been greatly relieved, and better working quarters and facilities have been provided. The brick walls on the Dearborn Street and Grand Avenue sides of the building have been replaced by entirely new walls of granite and Indiana limestone. The building now appears as a beautiful structure of which the Association can be justly proud. All building costs have been fully paid in accordance with the terms of contracts, and necessary adjustments in the building fund have been made, as shown in the financial reports that are appended herewith.

During the year it has been found necessary to make important additions to equipment in the printing department, including the purchase of two new linotype machines and additional presses. In the immediate future other new machinery must be secured, and the necessary appropriations for this purpose have been made by the Board of Trustees.

The Journal of the American Medical Association

During the year 1936 THE JOURNAL has maintained its repute as a leader in the general medical field.

Through cooperation with the United States Pharmacopeial Convention, THE JOURNAL has been publishing a series of articles on "The Pharmacopeia and the Physician," which have attracted wide attention and which have been of great service in encouraging prescribing of U. S. P. and N. N. R. products by the medical profession.

The special articles dealing with "The Therapy of the Cook County Hospital" have also been continued and will eventually be published in book form.

THE JOURNAL has cooperated with the United States Public Health Service in the publishing of a series of articles dealing with the diagnosis and treatment of venereal diseases.

Foreign correspondence has been extended by the development of correspondents in some countries not previously covered and by the inclusion of new material dealing particularly with the economic and social relations of medical practice in foreign countries.

THE JOURNAL has continued its earnest battle on behalf of high standards in the field of medical education and medical practice. Special issues have been devoted to graduate education, tuberculosis, general medical education, the work of the hospitals, roentgenology and clinical pathology.

The Editorial Department of THE JOURNAL has been still further developed by a shifting of emphasis somewhat from the purely laboratory and technical advances to material dealing especially with economics, general medical practice and the social aspects of medical work.

Attention is called to the further development of the department of questions and answers. This has now assumed such proportions that from thirty to fifty letters are received each day from physicians throughout the world, who present not only problems arising in their practice but in many instances problems affecting their own health. It even has been suggested that this extensive department might warrant the publication either of a book devoted to questions and answers or of a special periodical including only such material.

In a survey of medical periodicals published in the *Bulletin of the Medical Library Association* it was indicated that THE JOURNAL leads all other publications in the world in the number of times that it is referred to in various medical writings.

Tables 1 and 2 indicate the approximate count of Fellows and subscribers carried on the mailing list of THE JOURNAL

TABLE 1.—*Approximate Count of Fellows and Subscribers on The Journal Mailing List, by States, Dec. 31, 1936; Also Gain or Loss in Each State*

State	Fellows	Subscribers	Totals	Gain	Loss
Alabama	490	245	735	27	..
Arizona	209	120	329	22	..
Arkansas	364	191	555	60	..
California	3,446	2,481	5,927	331	..
Colorado	652	297	949	73	..
Connecticut	961	566	1,527	25	..
Delaware	116	80	196	10	..
District of Columbia	575	536	1,111	33	..
Florida	635	344	979	59	..
Georgia	612	402	1,014	90	..
Idaho	138	110	248	10	..
Illinois	4,327	2,628	6,955	61	..
Indiana	1,534	590	2,124	91	..
Iowa	1,243	388	1,631	39	..
Kansas	975	261	1,236	162	..
Kentucky	691	329	1,020	13	..
Louisiana	634	279	913	20	..
Maine	373	136	509	8	..
Maryland	799	646	1,445	97	..
Massachusetts	2,823	1,433	4,256	166	..
Michigan	2,111	1,233	3,344	143	..
Minnesota	1,330	575	1,905	69	..
Mississippi	278	110	388	7	..
Missouri	1,837	778	2,615	165	..
Montana	186	98	284	9	..
Nebraska	661	291	952	32	..
Nevada	54	36	90	..	1
New Hampshire	251	87	338	3	..
New Jersey	2,135	1,426	3,561	87	..
New Mexico	141	92	233	14	..
New York	9,027	5,549	14,576	467	..
North Carolina	709	463	1,172	52	..
North Dakota	218	69	287	..	5
Ohio	3,313	1,551	4,864	90	..
Oklahoma	713	271	984	74	..
Oregon	415	274	689	25	..
Pennsylvania	5,443	2,316	7,759	90	..
Rhode Island	341	192	533	..	4
South Carolina	314	219	533	29	..
South Dakota	173	112	285	..	16
Tennessee	689	416	1,105	56	..
Texas	1,758	797	2,555	56	..
Utah	212	101	313	19	..
Vermont	187	88	275	..	18
Virginia	871	411	1,282	61	..
Washington	738	353	1,091	31	..
West Virginia	574	257	831	18	..
Wisconsin	1,368	600	1,968	15	..
Wyoming	93	60	153	20	..
U. S. Army	...	173	173	3	..
U. S. Navy	...	232	232	15	..
Alaska	15	20	35	9	..
Canada	13	793	806	63	..
Cuba	3	78	81	10	..
Hawaii	106	63	169	7	..
Mexico	9	93	102	16	..
Panama	17	31	48	9	..
Philippine Islands	40	174	214	26	..
Puerto Rico	66	39	105	..	..
Virgin Islands	...	5	5	..	2
Foreign	117	2,559	2,676	250	..
Advertisers, agents	...	...	501	72	..
Exchanges	...	...	310	5	..
Complimentaries	...	...	99	1	..
Total on mailing list			94,180	3,515	46

and the number of physicians receiving THE JOURNAL in each state.

The average number of copies of THE JOURNAL printed weekly during the year 1936 was 93,301, while the total number of copies printed during the year was 4,851,677. The net paid circulation on Dec. 31, 1936, was 93,270, an increase of 3,391 over the net paid circulation on a similar date in the previous year.

Summary

The Journal of the American Medical Association has continued to hold the place which it has long occupied as the leading publication of its kind.

New features have been developed during the past year. Special articles dealing with subjects of important interest to the entire profession, some of which have been prepared with the cooperation of other leading organizations, have been published. The amount of space devoted to foreign correspondence has been increased, and information concerning scientific, social and economic conditions in other countries has been presented.

In the editorial columns more attention has been given to economic and social aspects of medicine, but the quality of editorial material dealing with scientific matters has been maintained in accordance with high standards previously established.

The department devoted to questions and answers has assumed such proportions that from thirty to fifty letters are received each day from physicians in all parts of the world.

TABLE 2.—*Physicians Receiving the Journal* *

State	Number Receiving Journal	Physicians in State; A.M.A. Directory	Approximate Percentage Receiving Journal
Alabama	735	2,105	35
Arizona	329	520	63
Arkansas	555	1,911	29
California	5,927	10,859	55
Colorado	949	1,933	49
Connecticut	1,527	2,401	64
Delaware	196	316	62
District of Columbia	1,111	1,979	56
Florida	979	1,939	51
Georgia	1,014	2,765	37
Idaho	248	410	61
Illinois	6,955	11,672	60
Indiana	2,124	4,025	53
Iowa	1,631	3,146	52
Kansas	1,236	2,188	57
Kentucky	1,020	2,770	37
Louisiana	913	2,135	43
Maine	509	966	53
Maryland	1,445	2,730	53
Massachusetts	4,256	7,263	59
Michigan	3,344	5,865	57
Minnesota	1,905	3,283	58
Mississippi	388	1,515	25
Missouri	2,615	5,496	48
Montana	284	483	59
Nebraska	952	1,781	54
Nevada	90	149	61
New Hampshire	338	593	57
New Jersey	3,561	5,177	69
New Mexico	233	401	58
New York	14,576	24,013	61
North Carolina	1,172	2,570	46
North Dakota	287	526	55
Ohio	4,864	8,907	55
Oklahoma	984	2,380	41
Oregon	689	1,344	51
Pennsylvania	7,759	12,889	60
Rhode Island	533	924	58
South Carolina	533	1,335	40
South Dakota	285	562	51
Tennessee	1,105	2,939	38
Texas	2,555	6,729	38
Utah	313	543	58
Vermont	275	503	55
Virginia	1,282	2,734	47
Washington	1,091	2,049	53
West Virginia	831	1,792	46
Wisconsin	1,968	3,387	58
Wyoming	153	261	59

* This table gives the number of physicians (based on the Fourteenth Edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL and the approximate percentage in each state. Copies to physicians in the United States Army and Navy are not included.

In a survey of medical periodicals published in the Bulletin of the Medical Library Association, it was shown that The Journal leads the medical publications of the world in the number of times it is referred to in medical literature.

Special Journals

The special periodicals issued by the American Medical Association have continued to serve as a source of stimulation and inspiration to the physicians interested in the specialties to which they are devoted.

During the year Dr. William Allen Pusey has retired as Editor of the ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY and has been elected by the Board of Trustees as Editor Emeritus of that publication. Under his leadership the ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY soon assumed and has since maintained a commanding position in the dermatologic periodical literature of the world. A special issue of the publication has been devoted to honoring him.

The ARCHIVES OF NEUROLOGY AND PSYCHIATRY dedicated the final issue for 1936 to Dr. Hugh T. Patrick, for many years Editor of that publication and instrumental in stimulating its establishment by the American Medical Association.

The AMERICAN JOURNAL OF DISEASES OF CHILDREN has rendered a special service by undertaking to publish monographic material which because of its cost and scope could not be published in any other manner.

Particularly important in the ARCHIVES OF INTERNAL MEDICINE are the monthly reviews and surveys of the status of various aspects of practice in internal medicine. Under the leadership of the editorial board of the ARCHIVES, these have developed such quality and importance that there are repeated demands for their republication in book form.

The other special periodicals have continued to maintain the high standards set in previous years.

All of the Association's periodicals in this group showed an increase in circulation for the year, the largest gains having been made by the ARCHIVES OF INTERNAL MEDICINE and the ARCHIVES OF OPHTHALMOLOGY. The total circulation of the special journals of the Association is not as large as is merited by the high quality of the material presented.

The loss incurred in the publication of the special journals for the year 1936 was $33,821.30. Only two of the publications, the ARCHIVES OF OTOLARYNGOLOGY and the ARCHIVES OF OPHTHALMOLOGY, produced incomes in excess of the costs of publication.

As reported to the House of Delegates at the 1936 annual session of the Association, requests have been received by the Board of Trustees for the publication of additional periodicals in special fields. While it is believed that the special journals now published constitute a distinct contribution to scientific medical literature, and while these periodicals are not published with the view of financial gain, it is nevertheless true that the Association hardly can afford to extend its efforts in this direction unless proper support is given by the profession whereby continued deficits of comparatively large amounts can be prevented. Some of the special journals are now encountering competition, which did not previously exist, because periodicals devoted to special fields are being published by commercial concerns who do not maintain advertising standards comparable to those established and maintained by the periodicals of the American Medical Association.

As stated in the last annual report submitted by the Board of Trustees, some of the periodicals that have lately been established have been made the official organs of special organizations and apparently are receiving even greater support from physicians engaged in the practice of specialties than are the special publications of the American Medical Association. The Board of Trustees desires to continue the publication of this group of journals but feels very strongly that the special journals are worthy of whole hearted support by members of the specialties which they are designed to serve. Failing to receive such support, in the event that deficits continue to increase, it may become necessary to consider seriously the advisability of suspending publication of those special journals which are responsible for the largest part of the losses incurred.

Summary

The circulation of all the special journals was larger in 1936 than in the previous year, but the total circulation is not as large as is merited. Only two of the special journals produced incomes in excess of publication costs. The total loss sustained in 1936 was $33,821.30. If deficits occasioned by the publication of this group of journals continue to increase, it may be necessary to consider suspension of publication of those responsible for the largest losses.

Hygeia

HYGEIA has maintained a steady increase in its circulation so that it has now reached the highest circulation in its history. Moreover, it is increasingly used as a source book for medical and health material by many other publications. Practically all of the popular periodicals which digest important material from other sources frequently present abstracts from HYGEIA. Magazines devoted to health in India, England, Germany, Russia, Canada and Australia have been quoting material taken directly from the pages of this publication. It is also used as a reference work in public schools in this and in some other countries.

In the publication of HYGEIA, the American Medical Association is rendering a service which could not, it may be said with assurance, be equaled by any other medical agency.

The net paid circulation for HYGEIA in December 1936 was in excess of 101,000, which represents an increase of approximately 15,000 over the circulation of the previous year. Approximately 16,000 physicians were subscribers in 1936. Woman's auxiliaries of various state medical associations secured a total of 5,541 subscriptions during the year. The aid thus given by the state auxiliaries is greatly appreciated by the Board of Trustees.

The advertising income from HYGEIA for the year 1936 was less than that of the previous year by approximately $12,000. The total income received was less than the cost of publication by the sum of $14,791.38, as compared with a loss of $31,311.29 in 1935.

Summary

The paid circulation of Hygeia at the end of the year 1936 was more than 101,000, an increase of about 15,000 over the previous year. Much of the material that has appeared in this magazine has been reproduced in abstract form in popular periodicals, and many public schools have continued the use of Hygeia as a reference work. Publication costs exceeded income by the sum of $14,791.38.

The Library

The demands for library service have increased steadily since 1920. The year 1936 has proved to be the year of greatest activity. During this year the Library has been provided with new and larger quarters and is far better equipped to meet the increased demands. The additional space has enabled rearrangement and correlation of various activities. The staff of the QUARTERLY CUMULATIVE INDEX MEDICUS now has adequate space for the immense amount of work involved in the preparation of this book. Ample stack room has been provided for a ten year collection of approximately 1,400 periodicals. The work of the entire Library staff has been greatly facilitated by assignment to the Library of such well planned and spacious quarters.

During the year, 10,852 periodicals were lent to physicians on individual requests. Thirty-five colleges and universities called on the Association for 937 periodicals which were not available in their various individual libraries.

The package library service, while not showing a great increase in the number of package libraries lent, nevertheless experienced one of its busiest years. There were 3,263 package libraries sent out in 1936. However, this figure does not include the folders on special subjects, which are being called for constantly for study in the Library and of which no record is kept. Approximately 100 visitors a month use the library facilities. The majority of package library requests were received from the states in which are to be found the greatest number of medical libraries; namely, Illinois 385, New York 250, Ohio 196 and Pennsylvania 190.

The Library answered some 6,000 bibliographic and general reference questions. As usual, the indexes to THE JOURNAL were prepared in the Library.

The preparation of the QUARTERLY CUMULATIVE INDEX MEDICUS continued to constitute one of the major tasks of the Library. Twenty-three new periodicals were added to the number regularly indexed and approximately fifty additional periodicals were consulted, from the contents of which occasional articles were indexed. The loss for 1936 was $3,643.57 less than for 1935.

During the year the Employees' Library showed a circulation of 5,400 books, with an average daily circulation of twenty-two.

Summary

New and enlarged quarters were provided for the Library in 1936, permitting rearrangement and correlation of the various activities and making it possible to meet more fully constantly increasing demands. Approximately 1,400 periodicals are now being received. During the year, 10,852 copies of periodicals were lent to physicians on individual requests. Library packages were distributed to the number of 3,263 in addition to a comparatively large number of folders on special subjects provided for the use of those who come to the Library for the purpose of study. Approximately 100 visitors a month use the Library facilities. About 6,000 inquiries of a bibliographic and general reference nature were answered.

The preparation of material for the Quarterly Cumulative Index Medicus constitutes one of the major tasks of the Library. Twenty-three new periodicals were added to the list of those regularly indexed, and occasional articles were indexed from approximately fifty additional periodicals. The costs of publication over income received from sales of the Index was less in 1936 than in the previous year by the sum of $3,643.57.

The total circulation of books in the Employees' Library was 5,400, with an average daily circulation of twenty-two.

Cooperative Medical Advertising Bureau

The Cooperative Medical Advertising Bureau represents thirty-three of the official publications of constituent state medical associations. Commissions earned in 1936 amounted to $30,598.63, as compared with $26,224.26 in 1935. From the commissions earned, the sum of $13,000 was remitted to the state medical journals represented by the Bureau, these remittances having been made in proportion to the total amount of advertising secured for each of the journals. Advertising contracts secured through the Cooperative Medical Advertising Bureau for the state medical journals concerned amounted to $152,995.29, which represents a gratifying increase over the amount involved in contracts secured during the previous year.

The *Connecticut State Medical Journal*, the official organ of the Connecticut State Medical Society, was established in 1936 and is one of the participating journals of the Bureau.

Summary

Thirty-three of thirty-five journals of constituent state medical associations are represented in the Cooperative Medical Advertising Bureau. The total amount of advertising secured in 1936 was $152,995.29. Commissions earned by the Bureau amounted to $30,598.63, of which the sum of $13,000 was remitted to the state medical journals represented by the Bureau in proportion to the total amount of advertising secured for each. The *Connecticut State Medical Journal* was added to the list of journals represented by the Bureau in 1936.

Mailing and Order Department

The total number of orders handled by the Order Department in 1936 was 69,819, with 343,977 units distributed. The Mailing Department handled 418,174 pieces of outgoing first

class mail, while 1,046,336 pieces of outgoing third class mail passed through this department.

A careful study has been made concerning the costs of shipping, and as a result shipping expenses have been somewhat reduced by resorting to the use of express facilities when the cost involved is less than that involved in shipping by mail.

Division of Foods, Drugs and Physical Therapy

In order that the work of the Council on Pharmacy and Chemistry, the Council on Physical Therapy and the Council on Foods might be better correlated and closer cooperation established in dealing with questions of common interest, completion of the plan for the creation of a Division of Foods, Drugs and Physical Therapy was carried out during the year.

This matter was brought to the attention of the House of Delegates at the Kansas City session. A committee on policy, rules and procedure, representing the three groups, has been established, and it is believed that the efficiency of the work of these councils will be greatly enhanced.

Council on Pharmacy and Chemistry

The work of the Council on Pharmacy and Chemistry was interfered with to some extent during a part of the year because of building operations, which, after completion, provided more ample space than was formerly available and thereby made possible the installation of much needed equipment and enlarged facilities.

SUBMISSION OF PRODUCTS AND COOPERATION OF MANUFACTURERS

There has been an almost constant increase in the number of products submitted to the Council for official consideration. It is gratifying to report that more and more important producers of pharmaceuticals are offering cooperation. Requests from manufacturers seeking opinion and advice concerning developments in drug therapy are being received much more frequently than before, and there is a very decided increase in the number of inquiries coming from physicians and official representatives of various organizations. It is encouraging to note that an appreciable number of manufacturers of drug products are revising catalogues to eliminate unessential and useless drugs and, in some instances, are discarding the use of therapeutically suggestive proprietary names which encourage self medication.

Another encouraging trend has been noted by the Council in that a number of pharmaceutical producers are now employing well qualified, scientific personnel in strengthening their laboratory and research facilities. The qualified opinion, advice and experience of the chemist, the bacteriologist and the physician are now being used to a far greater extent than ever before in connection with the production of therapeutic agents.

NOMENCLATURE

Some of the most difficult problems with which the Council has been confronted during its entire existence have been those concerned with nomenclature. During the past year the Council has been called on to give aid in devising nonproprietary names for new products, and the effort that has been made to be helpful in this connection evidently has been appreciated by the manufacturers.

Difficulties are rather frequently encountered in connection with the selection of names for newly discovered therapeutic agents. In some instances those who have developed entirely new compounds or products have coined names carrying distinct therapeutic implications, and this is not in accord with the basic rules of the Council. It is, of course, essential that the Council be consistent in its rulings with respect to nomenclature, and the acceptance of a therapeutically suggestive name would serve as a precedent that might easily create rather serious embarrassment later on. It is to be hoped that the time will come when investigators who have discovered new products will select names in compliance with the fundamentally sound rulings of the Council, opposed to therapeutically suggestive names. As an instance of the complications that sometimes arise in this connection, four different investigators, working independently within the last year, thought they had discovered four new and different alkaloids of one drug. Later they all agreed that the four products were identical, but each had selected a name of his own. Because of this situation, the Council was compelled to coin a new and different name. Naturally, more than one of the investigators felt that the name he selected should have been accepted by the Council.

Rather chaotic conditions have existed with respect to the nomenclature of endocrine principles. In an effort to remedy this situation, the Council sought the aid of a group of consultants, each of whom has made important contributions to the knowledge of glandular physiology. This group constituted a committee known as the Advisory Committee on the Nomenclature of Endocrine Principles and included Drs. Edgar Allen, Willard M. Allen, J. B. Collip, G. W. Corner, E. A. Doisy, E. T. Engle, H. M. Evans, R. T. Frank, F. L. Hisaw, F. C. Koch, Leo Loeb, G. F. Marrian, C. R. Moore, Oscar Riddle, P. E. Smith and C. W. Turner. Three reports have been published by the Council on recommendations of this committee. These reports were carefully prepared after intensive study, and the Council has notified manufacturers of certain estrogenic products that it is now in position to consider evidence to determine acceptability or nonacceptability of these products. Other types of endocrine preparations will be considered when the Council is convinced that the time is ripe for their proper appraisal.

Other important questions that have received the attention of the Council deal with the nomenclature of vitamins when the pure principles have been isolated and with definitions of substances that may be produced through the use of entirely different methods.

REPORTS OF THE COUNCIL

For many years the Council on Pharmacy and Chemistry has published reports on submitted products through the columns of THE JOURNAL after such products have been accepted or rejected. Of late years a number of products giving promise of usefulness but in a purely experimental status when neither acceptance nor rejection is warranted have been considered by the Council. Such products have been made the subjects of preliminary reports. A number of such reports have been published during the past year, and some of them have attracted widespread attention. Among the products thus reported are chondroitin, cyclopropane, refined and concentrated antipneumococcic serum type VII, trichophytin and oidiomycin.

A cooperative committee representing the Council on Pharmacy and Chemistry and the Council on Foods, organized in 1935, continued its work during the past year and prepared an important report on the status of certain questions concerning vitamins. The demand for copies of this report was so great that it was necessary to have an extra printing. Those problems pertaining primarily to foods which received the consideration of the cooperative committee are reported on by the Council on Foods.

Another report of the Council dealt with decisions with reference to vitamin E and high potency viosterol preparations.

A special report of the Council had to do with the use of the terms "sterile," "sterilize" and "sterilization," the Council having been asked by the Food and Drug Administration of the U. S. Department of Agriculture to express an advisory opinion on the use of these terms. It is the contention of the Council that these terms should not be used other than in their correct, scientific significance, which indicates the absence or destruction of all micro-organisms.

During the year the Council has published numerous reports on products that were not found acceptable for inclusion in New and Nonofficial Remedies. In some instances producers have taken off the market some of the products dealt with in these reports, while in other instances the Council has been asked to withhold final action until satisfactory convincing evidence justifying claims made can be offered.

PUBLICATIONS OF THE COUNCIL

New and Nonofficial Remedies.—In previous years New and Nonofficial Remedies has been revised annually, and supplements have been issued at various times during each year in order that subscribers may be properly informed concerning products that have been found acceptable in the interim between annual editions of this publication. In 1936 the issuance of a

new edition of New and Nonofficial Remedies was delayed for the reason that the U. S. Pharmacopeia and the National Formulary did not become official until June 1, 1936. The revision of the Pharmacopeia and of the National Formulary made it necessary to reedit and reset completely all material included in New and Nonofficial Remedies. The arrangement of the 1937 volume will differ from that of previous editions and will include a number of new products accepted for inclusion during the year 1936. A considerable number of products that formerly were included in New and Nonofficial Remedies will be omitted from the 1937 volume.

Epitome of the U. S. Pharmacopeia and National Formulary.—The issuance of the new decennial editions of the U. S. Pharmacopeia and the National Formulary made necessary a drastic revision of this publication of the Council. The original printing of 5,000 copies was quickly exhausted, and a second printing was necessary.

Useful Drugs.—The book Useful Drugs continues to enjoy wide popularity. The selected list of drugs contained in this book is used by many individual physicians and as a text in a number of medical schools. It was revised during the year in order to bring it into conformity with the new Pharmacopeia and National Formulary. During 1936 more than 7,400 copies of this book were distributed.

Glandular Physiology and Therapy.—In December 1935 a series of articles on glandular physiology and therapy that had appeared in THE JOURNAL was printed in book form. During 1936, 5,300 copies of this book were distributed and a second revised printing was made. This book will shortly be published in German, and arrangements have been made for a Polish translation. Because of the illness of one of the official translators a proposed French translation had to be given up, and a Spanish translation was interfered with because of the development of the civil war in Spain. Arrangements for translation into Italian are still pending.

Hospital Practice for Interns.—Revision of this publication was begun late in 1936, but the new and revised volume will soon be ready for publication under the joint auspices of the Council on Medical Education and Hospitals and the Council on Pharmacy and Chemistry. This book is intended as a reference book for the intern and for the practicing physician. In no sense is it intended to serve as a textbook.

SPECIAL INVESTIGATIONS

Catgut Sutures.—With the aid of a special committee appointed by the Council on authorization of the Board of Trustees, an investigation of catgut sutures on the market was undertaken. Examinations were made of approximately 1,100 sutures, purchased for the most part on the open market. The official report on this investigation had not been published at the time of the preparation of the report of the Council, but the manufacturers of catgut sutures have been informed of the conclusions of the committee, and beneficial results already have become apparent.

Nonspecific Protein Therapy.—The Council has under way an investigation of certain problems pertaining to nonspecific protein therapy.

Injection Treatment of Hernia.—A questionnaire pertaining to the injection treatment of hernia has been sent to physicians and hospitals in various parts of the country. After a careful analysis of replies received, the Council issued a report on the status of this particular method of treatment.

MEMBERSHIP OF THE COUNCIL

Dr. Reid Hunt, a member of the Council since its creation in 1905, submitted his resignation March 1, 1936, at the time of his retirement from the faculty of Harvard University. Dr. Hunt's resignation was accepted with genuine regret. As a member of the Council on Pharmacy and Chemistry for more than thirty years and as its chairman from 1927 to 1936, Dr. Hunt rendered invaluable service.

During the year Dr. E. M. K. Geiling, professor of pharmacology at the University of Chicago, was elected to succeed Dr. Hunt, and Dr. W. C. Rose, professor of biochemistry at the University of Illinois, was elected to fill the place formerly occupied by Dr. Lafayette B. Mendel, whose death was previously reported.

Summary

There is a rather constant increase in the number of products submitted for official consideration by the Council on Pharmacy and Chemistry and a gratifying tendency toward better cooperation on the part of producers of pharmaceuticals. A number of producers are strengthening their laboratory and research facilities and are utilizing the services of well qualified scientific investigators.

The general subject of nomenclature of therapeutic agents has demanded much attention on the part of the Council. Chaotic conditions have existed with respect to the nomenclature of endocrine principles and, through the aid of a group of consultants, it is believed that important contributions have been made to the knowledge of glandular therapy.

The established publications of the Council have been continued, with necessary revisions, and several special reports have been prepared and published.

The Council, with the aid of a special committee, has conducted an investigation of catgut sutures on the market. It also has instituted a special investigation of certain problems pertaining to nonspecific protein therapy.

Council on Physical Therapy

CONSIDERATION OF APPARATUS

Probably one of the most important functions of the Council is the publication of reports on apparatus submitted and investigated, as well as on apparatus offered for sale that is not submitted for consideration. The consideration of short wave diathermy machines took the lead for the year over all other apparatus. In view of the investigative work in the therapeutic usefulness of these machines, the Council feels justified in stating that, based on present available evidence, (1) there is no specific biologic action of high frequency currents, (2) there is no specific bactericidal action, and (3) the therapeutic effect is due to the heat produced. Twelve short wave diathermy machines were accepted. Many more were considered, some of which were rejected, while others are still under consideration.

It has come to the attention of the Council that many of these units will interfere with radio communication. The Council has gone on record to the effect that short wave machines will not be accepted in the future unless they are protected by filters or other devices to minimize interference. Among the appliances considered and accepted were positive and negative pressure machines, diathermy machines, vaporizers, inhalators, hearing aids, ultraviolet and infra-red devices, and oxygen therapy equipment.

EDUCATIONAL ACTIVITIES

Another important function of the Council is its educational activities. These are sponsored in a large measure by the consultants on education appointed by the Council on Physical Therapy. A number of state and county medical societies have cooperated by having discussions of physical therapy on their programs. Reports have come to the Council that young physicians are now taking graduate courses in physical therapy at various institutions.

Films available for loan by the Council have been shown at about thirty-five institutions and medical gatherings. At least eighteen lectures on physical therapy were given in various localities by the members of the Council. Twelve exhibits, including the exhibit at the regular annual session of the Association at Kansas City, were staged in cooperation with the Committee on Scientific Exhibit of the American Medical Association. The Council still believes that there is a vast opportunity for spreading information concerning the value of physical therapy among general practitioners. The Council is particularly anxious to make known the value of heat, massage and exercise. In the opinion of the Council, a very narrow view of the possibilities of physical therapy is pre-

sented to physicians by the representatives of manufacturers of apparatus calling on them. The consultants on education and the Council itself will attempt to secure speakers for medical societies.

In the course of the year, eight special articles were published in THE JOURNAL. These articles have been widely read and many reprints have been furnished to physicians on request. Among those which brought forth comment was the "Report of the Committee on the Present Status of Physical Therapy." In this, its second report, the committee pointed out that the status of physical therapy in its relation to general medicine has improved considerably since the first report ten years ago, in that there is a better understanding of the field as a whole by the physicians generally, that the usefulness and limitations of physical therapy agents are better understood and that the activities of the Council in its attempt to disseminate reliable information on this subject have been well rewarded.

Oxygen therapy, artificial fever therapy, passive vascular exercise and other important physical therapeutic measures that have been established within the last decade have received consideration.

The article "The Interrupted Low Frequency and the Constant Electric Current in Medicine" was the first adopted pronouncement of the Council on this subject. The scope and limitations of the field were discussed and a statement of possibilities of the agents was given.

SPECIAL INVESTIGATIONS

Shoes.—Progress is being made in the consideration of orthopedic equipment, including shoes. Consultants skilled in orthopedic surgery, appointed by the Council, have been preparing regulations for the consideration of shoes. While the specifications are not yet complete, the Council hopes to publish its report in the near future.

Audiometers.—A group of otologists has been appointed and is preparing regulations for acceptable audiometers and hearing aids. The American Society for the Hard of Hearing and the American Standards Association have cooperated in the consideration of hearing aids and audiometers.

Ophthalmologic Devices.—In cooperation with the Committee on Standardization of Instruments and Drugs of the Section on Ophthalmology of the American Medical Association, certain ophthalmic appliances for which therapeutic and diagnostic claims are made have been investigated and reported on in THE JOURNAL.

Research.—During the past year the Council awarded six grants to aid in research. These grants are made available to physicians and investigators who make application and who, in the opinion of the Committee on Research of the Council, have a problem of merit.

Handbook of Physical Therapy.—The second edition of the Handbook of Physical Therapy was completed this year. New chapters have been added and the entire book has been revised. In the opinion of the Council, the Handbook is more practical than the original edition and should be of great value to the general practitioner. Apparently it has been well received by the profession, since the original printing of 4,000 copies has been exhausted.

Apparatus Accepted.—The booklet "Apparatus Accepted" has again been revised to include all the products that have been accepted up to December 1936. When this booklet is revised, it is expected to be made larger by the addition of general discussions and will conform in general appearance to New and Nonofficial Remedies.

Seal of Acceptance.—A seal denoting acceptance of a product has been adopted by the Council on Physical Therapy.

The Council is greatly indebted to a number of physicians in various parts of the country, who have rendered most able assistance in promoting its work.

CHANGES IN MEMBERSHIP

In the death of Dr. F. J. Gaenslen the Council lost one of its most honored and efficient members.

Dr. George Miller MacKee and Dr. Robert B. Osgood, after several years of splendid service, found it necessary to resign because of other important duties.

Dr. Frank Dickson, Dr. Frank R. Ober and Dr. George C. Andrews were elected to succeed Drs. Gaenslen, MacKee and Osgood.

Summary

Consideration of apparatus is an important function of the Council. Appliances and devices considered have included wave diathermy machines, positive and negative pressure devices, vaporizers, inhalators, hearing aids, ultraviolet and infra-red lamps, and oxygen therapy equipment and apparatus intended for use in ophthalmology.

A number of state and county medical societies have cooperated with the Council by making programs on physical therapy available to their members. The Council feels that there is need and opportunity for disseminating information concerning the value of physical therapeutic measures among the general practitioners. The Council and its consultants will gladly cooperate with medical societies in securing speakers. Films are available for loan to medical societies that are interested.

Regulations for acceptable audiometers, orthopedic equipment including shoes, and radon preparations are now being prepared.

Six grants to aid in research on physical therapy problems were awarded.

New chapters have been added to the Handbook of Physical Therapy, and the entire book has been revised and published.

"Apparatus Accepted" has been revised to include all of the products that have been accepted up to December 1936.

The Council on Physical Therapy has adopted a seal of acceptance.

Council on Foods

The Council on Foods was first organized as a subcommittee of the Council on Pharmacy and Chemistry in an era characterized by the promulgation of extravagant nutritional claims for many ordinary foods. Misleading health claims were presented to the public over the radio, on cards in grocery stores and drug stores and even in restaurants, on bill boards, in newspapers and in magazines of both popular and semiscientific character. Today, partly as a result of the activities of this group, now known as the Council on Foods, these extravagant or misleading claims are seen and heard much less frequently.

Manufacturers of useful products who formerly resorted to more or less bizarre advertising have notified the Council that they have discontinued the use of such advertising and desire to have their products accepted by the Council and to comply with the Council's rules.

GENERAL POLICIES

The objectives of the Council on Foods are much clearer now than when the Committee was founded primarily to pass on health claims made in the advertising of food products. The Council not only passes on advertising claims but seeks to maintain high standards for food products, these standards being set by appropriate governmental agencies. The Council has reached an eminence where it is consulted frequently by public health officials and other officers charged with the maintenance of community standards for food products.

While maintaining its work in summarizing statements of policy toward claims made for foods, the Council has more recently undertaken to prepare reports on the nutritional significance of different classes of foods. These are published from time to time as general decisions and reports of the Council. It is anticipated that more and more of the Council's facilities will be directed in the future toward the preparation of educational reports on foods. These will fill a need which is met by no other organization. The reports that have been issued to date have met with a favorable response on the part of individual physicians and nutritionists.

LIMITATION OF SCOPE OF FOODS CONSIDERED

Early in 1936 the Council decided that it might well conserve its facilities by eliminating its attention from those classes of foods which least require attention. It was decided that ordinary bread and ordinary bakery products need no longer be considered. Manufacturers of accepted products were thereupon notified in advance that acceptance would be withdrawn on Jan. 1, 1937. All possible consideration was given so that manufacturers who had cooperated with the Council might use up current advertising and labels which bore the seal. With its action on bread, the Council began to plan to limit its scope even further and has eliminated a number of food products from consideration.

In limiting its scope, however, the Council has made it clear that it will review nutritional claims made in the advertising of food products of any class when such action is considered to be in the interest of the public and the profession.

NEW PRODUCTS ACCEPTED

The Council has, by its policy of limitations, relieved the office of considerable correspondence and has been able to begin again the acceptance of food products that fall within its scope. During the year 1936 a number of manufacturers who heretofore did not have their products accepted agreed to abide by the rules and decisions of the Council in their advertising and thus have had their products declared accepted, and the influence of the Council has been spread to that degree.

VITAMIN D FORTIFIED MILK

One of the problems to which the Council has devoted considerable attention is the fortification of foods with vitamin D. The Council and, of course, the medical profession in general have viewed with concern the tendency on the part of some manufacturers to add vitamin D to ordinary foods. The Council believes this practice encourages undue advertising emphasis but rarely serves any demonstrated need of public health or welfare. A policy toward fortification of foods with vitamins has been adopted by the Council and formulated as a general decision. A food is considered "fortified" if it is enhanced as to vitamin content or potency by the addition of vitamin concentrates, or of natural products of extraordinary vitamin potency, or by other means accomplishing the same results. In order that a fortified food may be accepted, the firm must present evidence that there is a definite need for an increased intake of the particular vitamin in question and that the food to which the vitamin is added is particularly suited as a vehicle. The Council has previously declared that a number of foods did not warrant fortification with vitamin D; namely, beer, cake, cake flour, ice cream, cheese and sausage and such accessories as chewing gum. More recently the Council has voted that, in view of the evidence now available, it will accept no vitamin D fortified food other than milk. Vitamin D is concerned with the metabolism of calcium and phosphorus. Milk provides an excellent source of these two dietary essentials. Furthermore, it has been observed by pediatricians that infants may consume vitamin D more regularly when it is incorporated with the milk.

In the vitamin D milk report, which was published in the issue of THE JOURNAL dated Jan. 16, 1937, but which was transmitted to the industry in the latter part of 1936, the Council has set up standards by which vitamin D milk will be considered and declared acceptable. No milk containing less than 135 or claiming more than 400 U. S. P. units of vitamin D per quart will be accepted. Milk containing less than 400 units per quart has enhanced nutritive value and when consumed in customary quantities (from 1½ ounces for each pound of body weight in early infancy and 1½ pints or more daily in later infancy) will prevent clinical rickets in infants. For milk containing 400 U. S. P. units per quart, it may be claimed that a margin of safety in the intake of vitamin D is provided, if the milk is ingested in the usual amounts prescribed by physicians. There must be no intimation in advertising of accepted vitamin D milks that the Council favors the use of any vitamin D fortified milk over the prescribing of other forms of vitamin D for infants or recommends the use of vitamin D milk to the exclusion of an additional supply of the vitamin in some other form. To be acceptable to the Council, bottle caps and labels must declare the potency and the source of the vitamin D. Otherwise the standards of maintenance of quality previously in operation are enforced.

GENERAL DECISIONS OF THE COUNCIL

Among other problems considered by the Council on which general decisions have been published are an amendment of the rules governing use of the seal, an amendment of the decision on vitamin E claims in advertising directed to the public, a decision on the classification of yeast products, a discussion intended as a guide to advertisers on the subject of energy claims for foods, and a brief discussion of the desirable nutritional features of diets used for the reduction of weight and the requirements of foods for weight reduction.

REPORTS OF THE COUNCIL

There is considerable interest in the nutritional properties of different classes of foods. At the present time there exist no comprehensive and unbiased reviews of the nutritional properties of commercially prepared foods. It was believed that brief accounts of the available evidence on the nutritional significance of different kinds of foods would be valuable not only to physicians but to nutritionists, public health officers and manufacturers. The first report in this series was on vitamin D milk and consisted of a comprehensive critical review of the literature by Dr. Philip C. Jeans. This was submitted as a report to the Council, discussed principally the available evidence on the relative value of different varieties of vitamin D milk for infants, and served to summarize and to evaluate the many apparently conflicting reports in the literature.

Another report that has attracted some attention is one on the nutritional significance of bran. The Council concluded that bran is a useful food for many persons, particularly as a source of bulk in the diet, but according to available evidence there are some individuals who cannot tolerate bran. The Council therefore reaffirms its previous stand that statements relative to the relief of constipation must be reproduced in full as follows: "Constipation due to insufficient roughage in the diet should yield to bran when eaten regularly. A competent physician should be consulted in cases not corrected in this simple manner."

In recent years much attention has been directed to the vast amount of experimental evidence that has accumulated on the composition and nutritional value of gelatin, a food that has been recommended for inclusion in the diet of infants and for the feeding of patients with certain myopathies. The Council has reviewed the evidence and has reached the conclusion that gelatin, properly made, is a wholesome food and has special usefulness when one desires to add variety to the diet. The claim that gelatin is an aid in the digestion of milk is, in the opinion of the Council, not established at present. The claim that gelatin is of particular value as a source of aminoacetic acid for the treatment of some of the myopathies cannot be recognized. Even though gelatin contains 25 per cent of aminoacetic acid, the dosage of this acid in the treatment of myasthenia gravis or pseudohypertrophic muscular dystrophy is usually from 20 to 30 Gm. and it is apparent that gelatin can furnish only a small proportion of the proper dosage. Other reasons for not recognizing this claim are discussed in full in the published report.

The past year has witnessed a reorganization of the administrative offices of the Council. Along with the Council on Physical Therapy, the headquarters office of the Council on Foods is housed with the Council on Pharmacy and Chemistry. This placing together of the staffs of the three councils makes for closer cooperation in the activities of these three groups and insures the maintenance of similar policies toward problems of a similar nature that confront each council. The present staff of the Council on Foods now includes Dr. Ruth Cowan Clouse, who has returned after a leave of absence due to illness, Miss Marjorie Pickens, who has completed the work for degree of Doctor of Philosophy in physiologic chemistry at Yale University, a secretary and five office assistants.

MEMBERSHIP

The Council on Foods records with sorrow the death of one of its members, Dr. Edwin O. Jordan, Sept. 2, 1936. Dr. Jordan

was elected a member of the Council in 1933. He gave his time and counsel unselfishly, and his loss is felt keenly by the members. The Council also lost by death, Nov. 11, 1936, one of its former members, Dr. William McKim Marriott, who served on the Council from 1929 to 1931.

Dr. Howard B. Lewis, professor of biologic chemistry, University of Michigan, was elected to the Council in 1936 and Dr. James S. McLester, at the request of the Council and the Board of Trustees, resumed a membership interrupted by his election as President-Elect of the American Medical Association.

CONSULTANTS

The following persons were called on as consultants during the year, and the Council and the Board of Trustees gratefully acknowledge appreciation of their services: Dr. Walter C. Alvarez, Dr. R. M. Bethke, Miss Ruth Blair, Dr. Margaret Hessler Brookes, Dr. Daniel C. Darrow, Dr. George B. Eusterman, Dr. H. J. Fisher, Miss Mary A. Foley, Dr. Grace MacLeod, Dr. Isabel Noble, Dr. Henry C. Sherman, Dr. Genevieve Stearns and Dr. Dwight L. Wilbur.

Summary

The objectives of the Council on Foods are now much more clearly defined than previously in that efforts are being directed toward the maintenance of high standards for food products as well as for improvement in the nature of advertising.

Reports dealing with the nutritional significance of different classes of foods are now published as general decisions and reports of the Council, and it is expected that in the future these educational reports will constitute a distinct feature of the Council's work. Many food products formerly included in the scope of the Council's consideration are no longer so included, but the Council will continue to review nutritional claims made in the advertising of food products.

Special consideration has been given during the past year to the subject of fortification of foods with vitamin D, and a food is now considered "fortified" if it is enhanced as to vitamin content or potency by the addition of vitamin concentrates or of natural products of unusual vitamin potency or by other means accomplishing the same results. It is required that convincing evidence of a definite need for an increased intake of the particular vitamin in question shall be presented and that the food to which a vitamin is added is suited as a vehicle before a fortified food can be accepted for inclusion in the Council's official lists. In view of the nature of available evidence, the Council has decided that no vitamin D fortified food other than milk will be accepted. Standards by which vitamin D milk will be considered and declared acceptable have been established. No milk containing less than 135 or claiming more than 400 U. S. P. units of vitamin D per quart will be accepted.

Important decisions have been made by the Council with respect to advertising claims on vitamin E, the classification of yeast products, nutritional features of diets used for the reduction of weight and the requirements of foods intended to be helpful in effecting weight reduction, as well as decisions pertaining to bran, gelatin, and other products that have been widely used but the status of which heretofore has not been definitely fixed.

The Council has had the benefit of the advice and counsel of a number of distinguished physicians and scientists who have served as consultants, and their helpful service is gratefully acknowledged.

Chemical Laboratory

The Chemical Laboratory has been remodeled and enlarged in order that it may better meet constantly increasing demands. Important additions include an accurately air conditioned micro-analytical room and a room in which physical equipment, including a photospectroscope, has been installed. These new facilities will enable the Laboratory to take full advantage of advanced methods in chemistry and thereby to save much time that was formerly taken up because of the enforced use of older and slower methods. The Association's Chemical Laboratory is now a well balanced unit equipped for both microchemical and macrochemical analysis as well as for physical chemical measurements.

In addition to the Director, four other splendidly qualified chemists are members of the Laboratory staff. The new Laboratory and the work that is being done have attracted great interest among chemists, and many professional men have called to inspect the arrangement and equipment.

During the past year in spite of the fact that it was necessary to close the Laboratory for several months because of building operations, a number of important problems have received attention and many products widely used in the practice of medicine have been carefully studied, including crystalline insulin, crystalline vitamin D, allantoin, pantocain, silver picrate, strophanthin and a number of hypnotic drugs. In addition, the Laboratory has, so far as possible, performed the usual services for the Bureau of Investigation and for other departments of the Association.

With the new equipment now available and with increased personnel, it is possible for the Laboratory to make important analyses in much less time and, in some instances, with greater accuracy than heretofore. By the use of the methods of microanalysis and spectroscopy, it is now possible to make determinations with far smaller amounts of products to be examined than could be done under older analytical methods. In one instance a drug costing approximately $2,000 a gram was submitted for analysis. Through the use of microchemistry and photospectroscopy, it was possible to make the necessary determinations with a minute amount of this product, and significant savings were thereby effected. In another instance a preparation offered for sale at $20 per ampule was found to contain approximately one part of indigo in 100,000 parts of water.

The largest part of the work of the Laboratory is concerned with products submitted for the consideration of the Council on Pharmacy and Chemistry and with making investigations designed to insure the purity and the potency of accepted products.

Summary

The Chemical Laboratory has been remodeled and enlarged, and important modern equipment has been installed. The Laboratory is most largely concerned with matters referred by the Council on Pharmacy and Chemistry and the Bureau of Investigation but also undertakes independent investigations.

Bureau of Legal Medicine and Legislation

FEDERAL LEGISLATION

The Seventy-Fourth Congress expired with the adjournment of its second session, June 20, 1936. The bills of interest to the medical profession that were pending when the Board of Trustees prepared its report for submission to the House of Delegates in 1936 were briefly discussed in that report. Before the Congress adjourned, it enacted legislation to carry into effect three of the legislative proposals there discussed. Provision was made for the restoration and maintenance of medical units in the Reserve Officers' Training Corps. The tax payable under the Harrison Narcotic Act by universities, colleges, schools and laboratories using narcotic drugs for purposes of research, instruction and analysis was reduced from $24 to $1 a year. Provision was made whereby any clinic operated for charity and not for profit might obtain alcohol free from federal tax for use within the activities of the clinic, including use for the compounding of bona fide medicines for the treatment of clinic patients outside the clinic. All other federal legislation discussed in the report of the Board of Trustees in 1936 lapsed with the expiration of the Seventy-Fourth Congress.

With the convening of the Seventy-Fifth Congress, in January 1937, there came the usual flood of bills, some new and some bills that had been introduced in the previous congress or possibly in many previous congresses without having been favorably acted on. The Bureau of Legal Medicine and Legislation has endeavored to keep in touch with all these bills so far as they are of direct interest to the medical profession and the public health of the country and has endeavored to keep the profession informed concerning them through the columns of THE

JOURNAL. Some of the more important bills possibly call for brief discussion here.

United States Department of Health.—The President of the United States transmitted to Congress, Jan. 12, 1937, a message in which he stated that it would be necessary to establish a Department of Social Welfare. Accompanying that message was a report from the President's Committee on Administrative Management in the Government of the United States, in which the committee outlined the functions of the proposed department as follows:

"To advise the President with regard to social welfare.

"To administer Federal health, educational, and social activities; to conduct research in these fields; to administer Federal grants, if any, for such purposes; to protect the consumer; to conduct the Federal aspects of Federal-State programs of social security where need is the basis of payment to beneficiaries; to administer all Federal eleemosynary, corrective, and penal institutions; and to administer probation and parole." Senate Document No. 8, 75th Congress, 1st Session, page 61.

The President's message and the report of his committee were, at the date of the writing of this report, under consideration by a joint committee of the Senate and the House of Representatives. Action to preserve the integrity of medicine and the public health administration and looking toward the establishment of a Department of Health independent of the proposed Department of Social Welfare was taken by the Board of Trustees and is discussed elsewhere in this report.

Federal Health Insurance.—The Social Security Board has been and is engaged in the study of social insurance. It is understood that this study covers health insurance only as an incident in the larger program. It seems probable, however, that the board will ultimately make an intensive study of health insurance as such. A bill (S. 855, 75th Congress) for the establishment of a system of federal health insurance was introduced by Senator Capper of Kansas, January 15, and is now pending in the Senate Committee on Finance. The bill, prepared by or under the direction of Abraham Epstein, follows closely the other bills which have emanated from that source.

Taxation Under Social Security Act.—The social security act became a law Aug. 14, 1935. Physicians and medical associations have been directly affected by it only as employers and employees. In those relations they have the same status as other employers and employees. Their medical status does not of itself entitle them to any special benefit or subject them to any special burden. A medical association, however, may be exempt from taxation as an employer if organized and operated exclusively for scientific or educational purposes, provided no part of its net earnings inures to the benefit of any private shareholder or individual. This does not prevent such an association from carrying on such administrative activities as are necessary to accomplish its scientific and educational purposes, but just how far such administrative activities may go is a matter that must be determined in each instance by the Commissioner of Internal Revenue, on the basis of evidence submitted. Exemption should be formally established through the office of the Commissioner of Internal Revenue, on proper application by the interested association.

Medical Services for Federal Employees.—Under the United States Employees' Compensation Act, an employee of the federal government who suffers injury or develops disease attributable to his duties is entitled to medical and hospital services at government expense. Such services must be furnished by or on the order of United States medical officers and in United States hospitals, if this is practicable. If it is not practicable, medical and hospital services may be furnished by or on the order of private physicians and hospitals designated or approved by the United States Employees' Compensation Commission. In the designation and approval of private physicians the commission limits its choice to doctors of medicine duly licensed to practice medicine. In its designation and approval of hospitals it recognizes only reputable hospitals. A bill has been introduced in the Seventy-Fifth Congress (S. 1233 and H. R. 4650) proposing to give to every licensed osteopath, so far as designation and approval by the commission is concerned, the same status as that of doctors of medicine. This bill is before the committees on the judiciary of the houses in which they respectively were introduced.

Sale of Helium by the Bureau of Mines.—The House of Delegates, at its 1936 session, adopted a resolution approving the allotment by the federal government of helium for therapeutic use (Proceedings, House of Delegates, 1936, pp. 55 and 65). A bill has been introduced in the Senate (S. 1567, 75th Congress) and in the House of Representatives (H. R. 4415, 75th Congress) authorizing the sale to citizens of the United States or to United States corporations, under regulations approved by the President, of any helium produced by the United States Bureau of Mines that is not needed for government use. This bill has the support of the Secretary of the Interior. It is pending in the committees on military affairs of the Senate and the House.

Contract Surgeons of the Spanish-American War.—Bills have been introduced to restore the pensionable status of veterans and female nurses who served during the Spanish-American War, to provide similar benefits for male nurses, and to do likewise for teamsters and others. The contract and acting assistant surgeons who rendered such valuable service have been neglected. The status of contract and acting assistant surgeons was considered, however, by the Committee on Pensions of the House of Representatives when H. R. 4013 (later reintroduced and reported favorably as H. R. 5030) relating to the pensions of veterans and female nurses was under consideration. As contract surgeons and acting assistant surgeons were not technically a part of the military forces, they were not included; their inclusion in the bill would render enactment of the bill more difficult and might even lead to its veto and thus lessen the chances of the veterans and female nurses obtaining the legislation that they seek. So far as can be learned, it is for this reason that contract surgeons and acting surgeons are to be denied, for the present at least, the benefits given others who rendered service no more meritorious than theirs.

Foods, Drugs, Therapeutic Devices and Cosmetics.—Before the Seventy-Fourth Congress adjourned, the Senate had passed a bill (S. 5, 74th Congress) for the better regulation of interstate commerce in foods, drugs, therapeutic devices and cosmetics. The House of Representatives struck out all after the enacting clause of the Senate bill and inserted an entirely new bill, which it then passed. The bill passed by the Senate and as amended and passed by the House seemed to fall short of what was required for the protection of the public. It was grossly inadequate in its provisions relating to drugs and the medical profession. There was little to choose between the Senate and House provisions. The Senate and the House of Representatives, however, reconciled all their differences except that relating to the control of advertising. The Senate proposed to vest authority in the Department of Agriculture, with power to proceed against offenders through the ordinary channels of criminal prosecution and injunction. The House of Representatives, however, proposed to confer authority over the advertising of foods, drugs, therapeutic devices and cosmetics on the Federal Trade Commission, with its much slower processes. No compromise could be reached, and the bill failed of enactment.

Almost immediately on the convening of the Seventy-Fifth Congress, there was introduced at the instance of Senator Copeland of New York a food, drug, therapeutic device and cosmetic bill (S. 5, 75th Congress) based on the bill introduced by him in the Seventy-Fourth Congress but which, after having passed the Senate, failed in conference. The new bill was in many respects a stronger and better bill than the one that failed. With few amendments, it passed the Senate and at the present writing (March 28) is now pending in the House of Representatives, before the Committee on Interstate and Foreign Commerce. In the House of Representatives a food, drug, therapeutic device and cosmetic bill was introduced by Representative Chapman of Kentucky, similar to the bill that passed the House of Representatives and failed in conference in the Seventy-Fourth Congress, but not identical with it. This bill along with seven others relating to foods, cosmetics and drugs, and along with the Copeland bill that has come over from the Senate, is at the present writing pending before the Committee on Interstate and Foreign Commerce.

STATE LEGISLATION

A survey of state legislation in 1936 of interest to the medical profession was published in the AMERICAN MEDICAL ASSOCIA-

TION BULLETIN for December 1936. Throughout the year, when state legislatures were in session, reports of the activities of state legislatures, so far as they might have a direct bearing on the medical profession, were published in the news columns of THE JOURNAL. Hereafter such publication will be in the Organization Section of THE JOURNAL. The Bureau of Legal Medicine and Legislation was in constant correspondence with constituent state medical associations in those states to which such legislation related. The more important measures of interest to the medical profession are discussed later.

Health Insurance.—Bills proposing the establishment of systems of compulsory state health insurance were considered in New York and Rhode Island. Neither of these bills was enacted. Both were patterned closely after the bill described by its proponents as a "Social Security Bill for Health Insurance" but which is popularly known as the "Epstein Bill," because of the activities of one Abraham Epstein, the secretary of the American Association for Social Security, Inc., by which the bill was prepared, drafted and sponsored. During the current year, 1937, at the present writing (March 28), health insurance bills have been introduced in five states. The bills in four of the states are patterned after the Epstein bill. The bill in the fifth state, Washington, was patterned after the health insurance act adopted in 1936 in British Columbia but which is believed to be so unworkable that no attempt is being made to give it effect.

Narcotic and Hypnotic Drugs.—The uniform narcotic drug act, drafted by the National Conference of Commissioners on Uniform State Laws, with the cooperation of the Bureau of Legal Medicine and Legislation, was enacted in 1936, with little modification, in Mississippi. So far in 1937 the uniform act has been enacted in four states, Idaho, Minnesota, Montana and Wyoming, and is pending or was considered in nine other states. The act, in its original or somewhat modified form, is now in force in thirty-one states. A law, separate and distinct from the state uniform narcotic drug act, was adopted in Virginia in 1936, to prohibit the possession, sale, use, distribution or production of cannabis. The law provides, however, that it is not to be construed as applying to licensed growers or to licensed manufacturers of drugs and medicinal supplies, hospitals, registered wholesale and retail pharmacists, or to licensed physicians, dentists or veterinarians. A similar law has been enacted so far in 1937 by one other state, Arkansas.

No laws were enacted in 1936 limiting the retail sale or distribution of hypnotic and somnifacient drugs, such as barbituric acid derivatives, to sale and distribution on the prescription of a licensed physician, dentist or veterination. Laws of this type have been enacted in recent years in fourteen states, and 1936 was the first year since 1929 during which there was no legislation on the subject. At present writing bills of this type are pending in seven states.

Laws Relating to the Healing Art.—Because the Supreme Court of Arizona declared that the Arizona basic science act had never had the force of law, since it had been adopted as a referendum measure at an election other than a general election, and not at a general election as required by the state constitution, the Arizona legislature found it necessary in special session to reenact it. It was reenacted in such form as not to be subject to referendum. An important amendment to the Massachusetts medical practice act was adopted in 1936 requiring, among other things, that an applicant for a license to practice medicine, in addition to previous requirements, (1) have completed two years of premedical collegiate work, including physics, chemistry and biology, in a college or university approved by an approving authority created by the act, consisting of the secretary of the board of registration in medicine, the commissioner of education and the commissioner of public health, and (2), in effect, have received the degree of doctor of medicine or its equivalent from a legally chartered medical school approved by the approving authority. In the past the board had to accept the credentials of any legally chartered medical college. No osteopathic, chiropractic or naturopathic legislation was enacted in 1936. Much cult legislation has been introduced so far in the 1937 legislative sessions, but no important bill has been enacted up to the date of this writing (March 28). A bill to create a separate naturopathic practice act passed both houses in New Mexico but was vetoed by the governor.

The Virginia law granting liens to hospitals treating persons injured through the negligence of others, on all rights of action, claims, judgments or compromises accruing to the injured persons because of their injuries, was so amended in 1936 as to grant such liens to physicians and nurses also under similar circumstances. So far in 1937 a medical and hospital lien law has been enacted in Washington.

Hospital Service Corporations.—Laws were enacted in Massachusetts and Mississippi in 1936 authorizing the formation of corporations to provide hospital care to their members or subscribers. The Massachusetts law contemplates that such corporations operate on a nonprofit basis, but the Mississippi law seems to permit such a corporation to operate for profit. Bills to permit the formation and operation of hospital service corporations have been introduced in eight state legislatures so far in 1937, with no enactments up to the time when this report was prepared.

Workmen's Compensation.—Legislation relative to occupational diseases was enacted in Illinois, Rhode Island and New York in 1936. In Illinois the act provides compensation for any occupational disease arising out of and in the course of employment. In Rhode Island the workmen's compensation act was so supplemented as to make compensable about thirty-one stated occupational diseases. The New York law making compensable any and all occupational diseases was amended so as to limit the compensation and medical treatment for which an employer is liable under it to a worker partially or totally disabled from silicosis or other dust diseases. Under a law enacted in Massachusetts in 1936 the liability of an insurer to furnish adequate and reasonable medical and hospital services is limited to the first two weeks after the occurrence of an industrial injury (and not after the beginning of incapacity, as the prior law provided) and in unusual cases or cases in which specialized or surgical treatment is required, in the discretion of the department, for a longer period. The new law also confirms the right of the worker to select his own physician.

So far in 1937 bills have been introduced in a number of states (1) to permit an injured workman to select the physician whom he desires to treat him at his employer's expense and (2) to extend the limits of liability of the employer for medical and hospital services rendered an injured worker. None of these bills have been enacted as yet. A workmen's occupational disease act practically identical with the Illinois act referred to has been enacted in Indiana in 1937. A great number of bills to make occupational diseases compensable are pending at this writing (March 28) in a number of other states.

MEDICAL AND HOSPITAL CARE FOR RESETTLEMENT ADMINISTRATION CLIENTS

The Federal Resettlement Administration is authorized to make grants to farm owners, farm tenants, share croppers, farm laborers, persons on the official rolls of the Resettlement Administration, Aug. 14, 1936, and other persons who on that date were living on farms and in farm areas and who, when last employed, received the major portion of their income from farm operations. Such grants take into consideration the employability of the grantee, ordinarily indicating potentiality for rehabilitation. His eligibility for relief is construed as having been established when it has been determined through personal investigation that his material and credit resources are inadequate to maintain health and prevent suffering (*Federal Register,* Aug. 18, 1936, p. 1296). In connection with these relief activities, the Resettlement Administration has endeavored to aid its clients in obtaining adequate medical and hospital care. Unable to pay physicians and hospitals directly for such care, the administration has endeavored to afford relief through loans to its clients wherewith to pay for it, or to corporations organized by or on behalf of its clients through which they might obtain loans for that purpose.

Because of the excessive number of persons in certain rural areas who in 1936, because of drought and dust storms, were unable to provide medical care for themselves and their dependents, the Resettlement Administration deemed it best to establish in North Dakota and South Dakota so-called farmers' aid corporations, through which clients of the administration

might obtain loans for medical and hospital purposes more conveniently than from the administration itself. Unfortunately, the articles of incorporation of these associations were drafted in such a way as to continue them far beyond any period within which specific farm relief in the states named can be regarded as likely to be needed and so as to give such corporations powers far beyond those necessary to enable them to carry on the activities for which they were supposedly created. The dangers inherent in these excesses were pointed out to the North Dakota State Medical Association and the South Dakota State Medical Association. Both of them, however, entered into agreements to cooperate with their respective farmers' mutual aid associations for limited periods.

In states other than North Dakota and South Dakota, the need for rural relief does not appear to have been so desperate. As a result the Resettlement Administration has endeavored to arrange with county medical societies for reduced charges for medical services rendered its clients, loans to be made by the administration to its clients to whom medical or hospital service has been rendered, with the understanding that the money so lent to the client shall be paid by him to the physician or hospital that rendered service. Properly safeguarded so as to prevent imposition on the medical profession by clients in rural areas who are able to provide for their own medical needs, this plan seems unobjectionable.

SILICOSIS

At the invitation of the Secretary of Labor, the Board of Trustees delegated the Director of the Bureau of Legal Medicine and Legislation to serve as a member of a committee to study silicosis with a view to recommending better preventive measures and measures for compensation. The committee has submitted its final report, which it is expected will soon appear as a public document.

The deliberations of the committee disclosed a strong desire on the part of the representatives of labor to limit state departments of health to scientific and technical advisory work and to vest in departments of labor all authority and responsibility for the administration of the laws and regulations relating to silicosis. In the end, the committee recommended that the control of silicosis be entrusted to a scientific body and an administrative body but left each state to determine for itself whether it will place both of these agencies in its department of health, or both in its department of labor, or one in one department and the other in the other department. It is obvious, however, that, other things being equal, a disinterested technically informed body, such as the state department of health, which stands neutral between employer and employee, can do more effective work than will be done by any lay agency that cannot escape the suspicion of being partisan, at least subconsciously, and inclined to favor the employee as against the employer. State departments of health, too, have the advantage of being correlated to analogous cooperating health units throughout the state; namely, municipal, county and district health departments.

Integration of the Medical Profession.—There have been no developments during the year looking toward the so-called integration of the medical profession in any jurisdiction, along the lines of organization recently adopted for the organization of the bars of the several states.

MEDICOLEGAL CASES: 1931-1935

The Bureau published in 1936 its second volume of abstracts of medicolegal court cases, containing abstracts that had appeared in THE JOURNAL during the calendar years 1931 to 1935, inclusive. This volume contains a table of cases and 813 pages of abstracts and carries, as did its predecessor, an adequate index by the use of which all major points of medicolegal interest involved in the abstracted decisions may be readily referred to by physicians, lawyers, claim adjusters and other users of the volume.

The Board of Trustees expresses its appreciation of the hearty cooperation given to the Bureau of Legal Medicine and Legislation during the past year by constituent associations and component societies and by many individual physicians.

Summary

1. *The United States Department of Health.*—The establishment of a Federal Department of Social Welfare has been recommended by the President, to administer federal health, educational and social activities. Action intended to be helpful in preserving the integrity of medicine and the public health and to promote the creation of a Department of Health, independent of the proposed Department of Social Welfare, has been taken.

2. *Federal Health Insurance.*—The Social Security Board has been engaged in a study of social insurance, including health insurance. Indications are that the board will ultimately make an intensive study of health insurance. A bill, prepared by or under the direction of Abraham Epstein, is pending in the Senate Committee on Finance, proposing to establish a system of federal health insurance.

3. *Social Security Act.*—Physicians and medical associations are affected by the taxes imposed by the Social Security Act only to the extent that employers and employees generally are affected. A medical association may be exempt from the taxes if organized and operated exclusively for scientific or educational purposes and if no part of its income inures to the benefit of any private shareholder or individual. Application for exemption should be filed with the office of the Commissioner of Internal Revenue.

4. *Medical Services for Federal Employees.*—A bill pending in Congress proposes to accord to osteopaths equal rights with doctors of medicine in the treatment of federal employees under the United States Employees' Compensation Act. Protests against the enactment of this bill have been filed.

5. *Sale of Helium by the Bureau of Mines.*—The sale of helium to United States citizens or corporations by the Bureau of Mines is proposed to be authorized by a bill pending in Congress, which has the approval of the Secretary of the Interior and the American Medical Association.

6. *Contract Surgeons of the Spanish-American War.*—The injustice that has been done to contract surgeons of the Spanish-American War continues. Pending legislation to grant increased pensions to veterans of that conflict omits reference to contract surgeons although continuing recognition of other persons who rendered services no more meritorious.

7. *Food, Drugs, Therapeutic Devices and Cosmetics.*—In the Seventy-Fourth Congress, the Senate and the House were unable to compose their different views with respect to the federal agency to have jurisdiction over the advertising of food, drugs, therapeutic devices and cosmetics, and as a result legislation then pending to revise the federal food and drugs act died with the adjournment of the Congress. When the Seventy-Fifth Congress convened, a stronger and better bill, in many respects, than the one passed by the Senate in the Seventy-Fourth Congress was immediately introduced in and ultimately passed by the Senate. It is now pending in the House Committee on Interstate and Foreign Commerce along with other bills relating to the same subject matter. The outcome of this legislation cannot safely be prophesied.

8. *State Health Insurance.*—During 1936, bills patterned after the so-called Epstein bill were introduced in two states, to establish systems of compulsory health insurance. In 1937 to date (March 28) similar bills have been introduced in four states. In another state, a bill patterned after the British Columbia health insurance act has been introduced.

9. *Narcotic and Hypnotic Drugs.*—The uniform narcotic drug act, approved by the American Medical Association, was enacted with slight modification in one state in 1936. In 1937, to date, the uniform act has been passed in four states. It is now in force in thirty-one states, either in its approved or in a modified form. A law relating to the possession, sale, use, distribution or production of cannabis was enacted in 1931 in one state and a similar law has been enacted to date in another

state in 1937. Laws relating to the retail sale or distribution of certain hypnotic and somnifacient drugs have been enacted in recent years in fourteen states. Bills relating to such drugs are now pending in seven states.

10. *Laws Relating to the Healing Art.*—The Supreme Court of Arizona voided the basic science act of that state in 1936 on the ground that it had been improperly submitted to a vote of the people at a special election. The legislature, however, reenacted the bill. The medical practice act of Massachusetts, in 1936, was amended to impose a two years college educational requirement on applicants and to authorize a board consisting of the secretary of the Board of Registration in Medicine, the commissioner of education and the commissioner of health to pass on the credentials of medical colleges.

While no cult legislation was enacted in 1936, many bills of that nature are now pending in the legislatures of the several states. A bill providing for a separate naturopathic practice act passed both houses in New Mexico but was vetoed by the governor.

In 1936 the Virginia hospital lien act was amended to accord its benefits to physicians and nurses. In 1937 a medical and hospital lien law has been enacted in Washington.

11. *Hospital Service Corporations.*—In 1936 two states enacted laws providing for the formation of corporations to provide hospital care to their members or subscribers. Bills contemplating the formation and operation of such corporations have been introduced in eight state legislatures in 1937.

12. *Workmen's Compensation.* — In 1936 legislation relative to occupational diseases was enacted in Illinois, New York and Rhode Island, and in 1937 in Indiana. Many bills relating to the compensability of occupational diseases are pending in the legislatures at the present time.

A law enacted in Massachusetts in 1936 reaffirms the right of an injured employee to select his own physician but limits the liability of an insurer with respect to the furnishing of medical and hospital services. Legislative proposals are under consideration in a number of states to permit injured workmen to select their own physicians and to extend the limits of liability of the employer for medical and hospital services.

13. *Medical and Hospital Care for Resettlement Administration Clients.*—The Resettlement Administration, in connection with its relief activities, has endeavored to aid its clients to obtain adequate medical and hospital care through the medium of loans made directly to such clients or indirectly through corporations organized by and on their behalf. In North Dakota and South Dakota, because of severe economic stress in the rural areas, so-called farmers' aid corporations were formed by the Resettlement Administration through which relief clients might obtain loans for medical and hospital purposes. These corporations, however, were organized along lines that raised questions of utmost importance to the medical profession. In other states the Resettlement Administration has endeavored to arrange with county medical societies for medical services for its clients, at reduced rates, loans to be made by the administration to its clients to pay for such services. The latter plan, properly safeguarded, seems unobjectionable.

14. *Silicosis.*—The Director of the Bureau, at the invitation of the Secretary of Labor, served as a member of a committee to study silicosis. The committee recommended that the control of silicosis be entrusted to a scientific body and an administrative body but left each state to determine for itself whether these agencies are to be placed in the department of health or in the department of labor. A disinterested technically informed body can obviously do more effective work than can be done by any lay agency. The committee has submitted its final report, which will probably soon appear as a public document.

15. *Integration of the Medical Profession.* — There have been no recent developments looking toward the so-called integration of the medical profession along the lines or organization recently adopted for the organization of the legal profession of the several states.

16. *Medicolegal Cases: 1931-1935.*—The Bureau published in 1936 its second volume of abstracts of medicolegal court cases, containing abstracts that had appeared in The Journal during the calendar years 1931 to 1935, inclusive.

17. *Medical Units in Reserve Officers' Training Corps.* —In 1936 Congress restored medical units in the Reserve Officers' Training Corps.

18. *Tax Payable by Medical Schools Under Harrison Narcotic Act.*—A reduction from $24 to $1 a year was effected in 1936 in the tax payable under the Harrison Narcotic Act by universities, colleges, schools and laboratories using narcotic drugs for research, instruction and analysis.

19. *Tax Free Alcohol for Charitable Clinics.*—Clinics operated for charity were authorized by a law enacted by Congress in 1936 to obtain alcohol free from federal tax for use in such clinics.

Bureau of Medical Economics

The Bureau of Medical Economics during the past year has endeavored to set forth in the published reports of its studies more of the economic principles that should govern in various forms of medical practice.

UNIVERSITY AND COLLEGE STUDENT HEALTH SERVICES

The study of university and college student health services was completed and published in February 1936. Information was received by the Bureau from 298 institutions having a student health service; twenty-five institutions replied that they did not maintain such a service.

The information on which the Bureau report was based was taken from the schedules returned by 255 of the 298 institutions having student health services.

The conclusions drawn from the study of the available data are as follows:

1. There has been, during the last decade, a steady increase in the number of institutions maintaining student health services. The trend is definitely toward a single department for the administration of the continuously expanding personal medical services and health activities.

2. Conclusions pertaining to the financial advantages or disadvantages of an organization of medical services for students are rendered dubious by the inadequacy and inaccuracy of the financial records for student health services. The reported cost per student is not appreciably less than the cost for similar services in the private purchase of medical and hospital care.

3. There appears to be a surprisingly large amount of capital invested in buildings and equipment devoted to health and medical services for students. A few health services have shown that student medical care plans can be operated effectively and economically without large investments in buildings and equipment by utilizing the medical agencies and facilities of the community.

4. There seems to be a general tendency to develop health and medical services in colleges and universities on an institutional rather than a community basis. The extension of student health services into comprehensive plans disrupts the professional practice of medicine into a system of institutional medical enterprises. Under such plans the patient is considered as a member of a restricted cultural group rather than as a human being subject to his entire environment.

5. There is a growing belief that the place of the student health service in the community medical scheme should be that of an agency to supervise the health of students and to teach health standards.

6. Neither the organization nor the conduct of student health services appears to have followed any generally accepted principles or objectives except to provide students with some sort of health instruction and variable forms and degrees of medical advice and care. The essential pedagogic and medical factors in the health program seem to have suffered because of new activities of student health services without careful investigation of their usefulness and largely designed to advance athletics.

7. There seems to be evidence to show that the health education of students, which is presumably the primary function of a student health service, has not always been as effective as might be expected of institutions of higher learning. The health education program, which should enable college students to acquire health principles and hygiene practices that will influence public opinion and social custom for the betterment of human health, has been neglected because of unnecessary emphasis on the treatment and management of illness among the students.

8. A universally accepted measure of performance or accomplishment by which the programs and benefits of student health services may be judged has not been evolved. The lack of a proper method of appraisal has permitted a confusion of clinical and health educational activities to the detriment of the more widely beneficial education program. The evaluation of student health services may be made possible by properly prepared health records and health tests.

9. It appears that a large percentage of universities and colleges are actually engaged in the practice of medicine in varying degrees. The successful operation of a few student medical care plans in accordance with the ethical principles of the medical profession indicates that there are no insurmountable obstacles to so operating other student health services.

10. The segregation of a section of the medical profession by student health services under standards built on a compromise between the ideals of medicine and the interests of educational institutions is proving harmful to the educational institutions and to the medical profession alike. This division within the medical profession reduces its influence in molding the standards and ethics of these plans into a form which will best serve in the prevention and cure of disease.

11. The number of instances in which a practical cooperative arrangement has been effected between the college and the county medical society of the college community for the medical care of students seems to be lamentably small. It does not appear likely that the health education objectives of a student health service will be achieved until harmonious cooperation is established between educational institutions and the medical profession.

Many copies of the report of the Bureau of Medical Economics have gone to persons who are interested in or are directly connected with student health services. Since the publication of this report, some significant tendencies have been noted.

Information received from Pennsylvania, Texas, Illinois and Washington indicates that the directors of student health services are changing their attitude toward medical service for students. In one state a program for student medical service plans, adopted by the department of education and approved by the state medical society, has been put into effect by a college with the endorsement of the county medical society. The accepted program includes regulations governing medical services which are in accord with the principles regarded as desirable in the Bureau report. The Bureau has had occasion to refer committees from colleges to county medical societies for further assistance in reorganizing arrangements for student medical care.

The chairman of a committee for the National Conference on College Hygiene commented very favorably on the report and asked the Bureau to suggest standards for consideration at the conference. An outline of proposed standards, principles and regulations to be discussed by another committee at the conference was submitted to the Bureau. A careful analysis of these proposals showed a most encouraging willingness on the part of the committee to agree with the point of view of the medical profession with regard to questions of medical services in universities and colleges.

As was indicated in the report, it appears that student health services are in a transition stage and that a splendid opportunity exists for county medical societies to assist in the organization of student medical care plans. Success in arranging medical service plans for students will result in much progress along the road toward private practice and an ever better medical service.

GROUP HOSPITALIZATION

No development in the field of medical economics, with the exceptions perhaps of sickness insurance and state medicine, has aroused more interest and discussion than has group hospitalization, or prepayment plans for hospital care.

During the recent economic depression, hospital income from endowments and voluntary contributions was decreased by about two thirds, the charity load was increased almost fourfold, and huge obligations growing out of capital investments or fixed costs remained unmet. It is believed that such conditions induced many hospitals in the United States to adopt group hospitalization plans as a means to secure needed income. The sponsors of these plans have offered them as a method of providing low cost hospitalization and have urged hospitals all over the country to adopt them.

A study has been made of the experiences of the majority of group hospitalization plans. The subject matter of the report will be arranged according to the following main headings:

Introduction.
The Background of Group Hospitalization.
The Development of Group Hospitalization Plans.
The Status of Group Hospitalization Plans.
Insurance and Group Hospitalization.
The Relation of Group Hospitalization Plans to the Practice of Medicine.
Guiding Principles and Conclusions.

At the time this report was prepared there were fifty-six operating and thirty-four proposed group hospitalization plans that were being actively promoted. These ninety plans are all that remain active out of some 172 surveyed. This indicates a strikingly high mortality for group hospitalization plans. Some 469 hospitals were reported to be participating in plans in operation or proposed. At present the best estimate that can be made from available membership reports indicates that about 700,000 persons have become members of these schemes. Subscribers and their dependents are included in the membership reports in most instances. The number of subscribers—those who have actually signed their names to contracts and pay membership premiums for hospital insurance—is estimated to be about 500,000.

The number of these projects or the size of the membership is not the most significant development in the group hospitalization movement. The most important factor in this new method of marketing hospital services lies in the influence that it has on the relation of hospitals to medical practice. The hospital service contract seemingly cannot be limited to the provision of essential hospital facilities. With few exceptions, the contracts include medical services in one form or another. The practice of clinical pathology, anesthesia, radiology and physical therapy are a part of the practice of medicine. These services are medical services, whether performed by hospital employees under the direction of salaried physicians or by physicians who are practicing privately and have no contractual arrangement with hospitals. Whether physicians are salaried or not, they are governed by the Principles of Medical Ethics, which includes the principle that:

> It is unprofessional for a physician to dispose of his professional attainments or services to any lay body, organization, group or individual, by whatever name called, or however organized, under terms or conditions which permit a direct profit from the fees, salary or compensation received to accrue to the lay body or individual employing him. Such a procedure is beneath the dignity of professional practice, is unfair competition with the profession at large, is harmful alike to the profession of medicine and the welfare of the people, and is against sound public policy.

If the profession encourages group hospitalization plans that include medical services, it cannot consistently object to hospitals profiting from the services of physicians when other special medical services are added to group hospitalization contracts.

The Bureau has repeatedly directed attention to the fact that group hospitalization is actually a form of insurance coverage. The determination of actuarially sound bases for premium rates, the careful selection of risks and the wise handling of funds are insurance duties that cannot be lightly undertaken by the inexperienced. The organizers of group hospitalization plans have accepted as probable experience that 10 per cent of the members will be hospitalized for an average stay of ten days, or that one patient-day per member annually will have to be provided. The rates charged subscribers and the payments to member hospitals are usually based on this expectation. The plan of group hospitalization has less reliable actuarial computations than health and accident insurance, which is notoriously unstable. Health and accident insurance companies have found that "the average person with a new form of insurance policy does not become 'insurance conscious' until he has had his policy a year or two—then the claims start to come in." The financial security of hospital insurance will depend on a more accurate estimate of anticipated losses than seems possible at present. Already it appears that certain groups, such as hospital employees, nurses, employees of physicians, women and adult dependents, are unusually hospital minded. Recently there has been a noticeable adoption of restrictions in hospital service contracts to prevent impending excessive hospitalization. On the other hand, some of the most ardent

proponents of hospital insurance schemes take the position that premium rates must be reduced. The indications from the schedules that have been returned are that hospitalization under group plans will be greater and the patient stay will be slightly shorter than expected. If the future financial security of these plans is at all doubtful, they should not now be held out as a solution to the financial ills of hospitals.

The financial balance sheets of some hospital insurance schemes may be deceptive. There appears to be a growing belief that these schemes are accumulating appreciable reserves. On the basis of total income, several plans have reported surpluses. If, however, hospitalization costs and administrative and promotional expenses are deducted from the *earned* income, surpluses would, in some instances, be materially reduced and apparent profits might be transformed into losses. A few of the better managed plans do report actual surpluses, but even these amount to less than $2 per member, whereas a conservative reserve would be $5 per member.

There appears to be a current attitude that reserves are unnecessary because member hospitals always stand ready to render services. However, since hospitals usually contract to render service only on the payment of a specified per diem rate, it is essential that funds be available when members of the plan need hospital care. At the present stage of hospital insurance schemes the question of the liability of member hospitals to provide service under the contract, if the funds of the plan should become exhausted, has not yet been determined. It is believed that greater security could be provided for members by guaranteeing both the available facilities of member hospitals and an adequate cash reserve.

During the present period of rapid membership growth, a low loss ratio can be expected. However, as the membership grows older and it becomes more difficult to obtain new members in groups large enough to avoid adverse selection, an increase in the number of persons hospitalized and in the costs of hospitalization will be probable. Thus, when the membership of these plans reaches a stationary point or begins to decline, an increase in the hospitalization of members and in costs can be expected. The actuarial basis for each plan will then require close scrutiny. If such developments occur, those plans which have ignored the setting up of reserves will be in a particularly hazardous position.

The new plan for group hospitalization is too often considered as a device to fill vacant hospital beds and to augment hospital income. These plans were originally supposed to be a method of assisting persons with limited means to secure necessary hospital services. It would therefore be assumed that such services should be rendered at less than regular rates. Accordingly, there should be some income limitation, at the "comfort level" of the community, to exclude those persons able to pay fair rates. If no concession in rates is made, that is, if the hospital continues to receive full fees for services rendered, there may be little justification in insisting on an income limitation for those who may subscribe. If the hospital continues to receive regular rates under the group hospitalization plan, the plan simply becomes a method for selling hospital service on a prepayment basis and the altruistic purpose is entirely lost. The value of the group hospitalization plan will then be determined by the answer to the question "Is it worth while to create an institution to provide hospitalization on a prepayment arrangement for hospital bills when the administrative costs are some 12 to 40 per cent of the patients' fees?" It is believed that a postpayment plan for those persons really unable to meet their hospital bills would be more economical. In a number of communities, county medical societies have created facilities whereby persons having low incomes may secure medical and hospital care at reduced rates on a deferred payment plan. The cost of administration of such plans is about 10 per cent, which is borne by the physicians and the hospitals. No interest, carrying charges or credit rating costs are added to the patient's bill. In the last analysis public opinion will decide which plan is wanted, but all persons should be entitled to the facts without the coloring of bombastic claims.

Available information indicates that there has been an increase in the number of persons seeking free hospital care. When considered in connection with the incomes of American workers, this increase does not appear to be entirely warranted. It is claimed that hospital insurance schemes will meet the needs of the low income group and will remove them from tax-supported hospitals and the free services of private hospitals. Group hospitalization plans are ostensibly intended for the benefit of population groups on which full hospital fees would prove a hardship. However, it is often stated by the proponents of hospitalization insurance schemes that membership has not yet reached the rural and low income groups. These proponents believe that the premium rate is an obstacle in many cases. While the cost for a single membership is usually about $9, the annual cost for a family may be as high as $49. The relief from this dilemma will require serious study. A hospital routing plan, based on a central admitting bureau which determines the ability of patients to pay hospital bills, is a more direct solution to the problem of the abuse of free hospital services.

Group hospitalization plans at best will serve but a small percentage of the eligible population. They make no provision for the care of the indigent, those above certain age limits or those otherwise excluded, and only slight provision for the chronically sick and the unemployed. They must not, therefore, be permitted to develop features antagonistic to the private practice of medicine, which is maintained to provide for the medical needs of all persons regardless of income status, nature of illness, age, membership in some social group, or any other such artificial classification.

The Bureau of Medical Economics has consistently maintained that the decision as to whether or not a group hospitalization plan is essential must rest primarily with the medical profession and the hospital officials of the local community. Furthermore, if it is decided that a group hospitalization plan is necessary to complete or to augment the existing hospital facilities of the community, certain principles of organization and administration should be observed. The following principles are suggested in the interest of fairness, efficiency and greater security, and in the event that hospital insurance is deemed necessary:

1. The plan of organization should conform to state statutes and case law. The majority of the governing body of the hospital insurance plan should be chosen from among members of official hospital groups and members of medical societies. Great care should be taken to assure the nonprofit character of these new ventures.

2. The plan should include all reputable hospitals. The qualifications of the participating hospitals should be closely supervised. Member hospitals should be limited to those on the Hospital Register of the American Medical Association or to those approved by the state departments of public health or other state agencies in those states in which there is approval, registration or licensing of hospitals.

3. The medical profession should have a voice in the organization and administration of the plan. Since hospitals were founded to serve as facilitating means to the practice of medicine, the medical profession must concern itself intimately with plans likely to affect the relations of hospitals to physicians.

4. The subscriber's contract should exclude all medical services—contract provisions should be limited exclusively to hospital facilities. If hospital service is limited to include only hospital room accommodations such as bed, board, operating room, medicines, surgical dressings and general nursing care, the distinction between hospital service and medical service will be clear.

5. The plan should be operated on an insurance accounting basis with due consideration for earned and unearned premiums, administrative costs and reserves for contingencies and unanticipated losses. Supervision by state insurance departments has been advantageous for both the buyer and the seller of insurance contracts. Laws permitting the formation of hospital service corporations should not remove the benefits of such supervision nor violate the principles enumerated.

6. There should be an upper income limit for subscribers. If group hospitalization plans are designed to aid persons with limited means to secure hospital services, they should render such service at less than regular rates. If no consideration in rates is made for persons with limited means, group hospitalization plans lose their altruistic purpose and there may be little justification for an income limit.

7. There should be no commercial or high pressure salesmanship or exorbitant or misleading advertising to secure subscribers. Such tactics are contrary to medical and hospital ethics and are against sound public policy.

8. There should be no diversion of funds to individuals or corporations seeking to secure subscribers for a profit. The moment hospitals lose their traditional character as institutions of charity and humanitarianism the entire voluntary hospital system will break down.

9. Group hospitalization plans should not be utilized primarily or chiefly as means to increase bed occupancy or to liquidate hospital indebtedness. Such plans, if they are necessary, should place emphasis on public welfare and not on hospital finances.

10. Group hospitalization plans should not be considered a panacea for the economic ills of hospitals. They can serve only a small portion of those persons needing hospital services. Hospitals must continue to develop efficient methods of administration and service independent of any insurance method of selling their accommodations.

Notwithstanding the efforts of medical societies and this bureau, as well as the reports of the Judicial Council and the action of the House of Delegates on group hospitalization at the Kansas City session to develop principles for the guidance of the group hospitalization movement, few, if any, of the plans exclude all medical services from their group hospitalization contracts. The extent to which medical services are included in the hospital service contracts is shown in the report of the Bureau.

For many years there have been serious discussions among physicians and hospital administrators concerning the most equitable arrangements for anesthesia, clinical pathology, radiology and other special medical services in hospitals. These are fields in which hospitals and the medical profession must seek and apply adjustments. Just now, when a more satisfactory relationship in some of these fields seems to be in view, group hospitalization tends to accentuate and perpetuate the very conditions which the medical profession and some hospital authorities have sought to improve. Hospital insurance plans tend to force the continuation of undesirable practices and relations between physicians and hospitals.

These prepayment plans for hospital care show a distinct tendency to place hospitals themselves in the field of medical practice. If group hospitalization organizations become sufficiently strong in membership support, and if they pursue the announced policy of liberalizing benefits, the future course of such plans seems clear. Either they will offer a longer period of hospital stay, or they will include more medical services. It is only occasionally that patients need more than the twenty-one days of hospitalization now offered. At the time of hospitalization every patient needs one or more medical services. Who can deny that the directors of these schemes may propose to include additional medical services to make their contracts more salable? There is only a remote possibility that a future development in these plans will be a decrease in subscription rates.

If group hospitalization schemes were to confine their benefits strictly to hospital facilities, the movement would avoid most of the undesirable disturbances in the field of medical practice without impairing the value of the plan as a method of assisting persons with limited incomes to receive hospital services. In this connection there is need for a thorough understanding on the part of the organizers and administrators of group hospitalization plans as to what constitutes medical services.

Because of the several reasons outlined, group hospitalization, instead of preventing the advent of some form of sickness insurance, is more likely to be the first step toward the opening of hospitals for all persons in the community and then a system of state managed medicine. The group hospitalization movement is clearly one of the major issues demanding action by the medical profession if the future of medical practice is to be maintained on a basis which guarantees that the welfare of the sick individual is the first consideration.

ECONOMICS AND THE ETHICS OF MEDICINE

In June 1936 the Bureau published a discussion of the relation between economics and the Principles of Medical Ethics. The publication contains five chapters:

Chapter I. The Hippocratic Oath.
Chapter II. The Principles of Ethics of the American Medical Association.
Chapter III. The Relation of Ethics to Economics.
Chapter IV. The Development of Medical Ethics.
Chapter V. The Medical Group.

Many of the principles of medical ethics contain economic implications. This discussion is intended as much for the medical student as for the practicing physician. It is hoped that some explanation of these principles may serve to emphasize that many of the problems which are often thought to be economic are in reality ethical.

CARE AND RELIEF OF PHYSICIANS AND THEIR DEPENDENTS

The Bureau has prepared a synopsis of the existing state or county medical society pension or relief plans for indigent physicians. This summary appeared in the November BULLETIN. In this article there is also a discussion of the organizations which have been created in foreign countries for the care and relief of physicians and their dependents.

The conclusions drawn from the Bureau's study of this subject are:

1. From all present indications of actual need, it would be impracticable to organize a national "Benevolent Society" or "Relief Fund" under the auspices of the American Medical Association. State and county medical societies have often indicated that there are but few instances of indigence. A report of the Works Progress Administration shows that of the 82,000 professional and technical workers on relief 675 were "physicians, surgeons and dentists." This number may be compared with 20,000 teachers, 15,000 musicians and music teachers, 6,800 nurses, 6,200 engineers, 4,500 draftsmen, 3,800 actors, 3,000 clergymen and religious workers, 2,900 artists, 800 chemists, assayists and metallurgists, and 1,400 reporters and editors. Until it can be definitely shown that there is now a real need for a national relief fund, the state and county medical societies should be encouraged to develop benevolent activities according to local requirements. Not until the burden of benevolence tends to become too large for local resources should a national fund be established.

2. Few of the proposed projects for the establishment of new homes or clubs for aged physicians deserve encouragement. While the philanthropic motive behind such movements is commendable, it should not be permitted to confuse the fact that these plans have been repeatedly disavowed as an uneconomic and unsatisfactory solution of the problem of caring for aged physicians. Homes now in existence can satisfy the demands for facilities to accommodate aged physicians desiring or needing institutional care. Certainly it does not appear to be within the province of the American Medical Association to establish new homes.

3. Commercial insurance companies have so improved their contracts and rates that it is questionable whether any mutual assessment association to be newly organized could offer a similar contract with the same guaranty of good management, resources and services. It would not now be advisable for the American Medical Association to enter into the insurance business.

4. The formation of an agency to secure more advantageous insurance contracts and reductions in premiums—in effect, a wholesale insurance buying arrangement—which is said to operate effectively for several European medical associations, might, in time, become adaptable to the circumstances in the United States. Through its Bureau of Medical Economics, the American Medical Association has given a great deal of service on all matters pertaining to insurance. The advisability of creating an intermediary insurance purchasing agency for physicians would require careful study.

RURAL MEDICAL SERVICE

Are rural sections of the United States suffering from a lack of available medical service? If so, where are they and what are the conditions responsible for such deficiencies?

The Bureau of Medical Economics, with the assistance of the state medical associations, has undertaken an investigation to obtain the facts needed to answer these questions. The first step was to locate the counties with the largest population per physician. While making all possible allowance for the fact that a county is by no means a social or medical unit, it is the unit of nearly all available statistical compilations. It is also recognized that the ratio of population to physician is far from being an exact measure of available medical services. The most that can be claimed for such a ratio is that it is an indication of the extent to which such services are available.

Even a superficial examination of the medical writings of the last 100 years will indicate that there has scarcely been a time or a place, in Western nations at least, when there have not been complaints of a lack of medical service in rural districts. Moreover, the extent and vociferousness of these complaints seem to bear no particular relation to available medical facilities, unless, as sometimes appears probable, the complaints become more vocal as the facilities increase.

In 1918 there were 123 counties in the United States with more than 2,000 persons per physician. This number had increased to 297 counties located in thirty states in 1934 and had dropped to 233 in 1936. According to the American Medical Directories, there were sixteen counties in 1934 and nineteen counties in 1936 having no physicians. The sparse population of these counties is apparent. Seven of the counties in 1934 and ten of the counties in 1936 were included in the jurisdiction of county medical societies.

The detailed analysis of the economic conditions in each of the states having four or more counties with 2,000 persons per physician has appeared in THE JOURNAL and will soon be available in reprint form.

*Counties Having No Physicians, According to American Medical Association Directories**

State	1934 Number of Counties	1934 Land Area in Square Miles†	1934 Population†	1934 Pop. per Sq. Mile†	1936 Number of Counties	1936 Land Area in Square Miles†	1936 Population†	1936 Pop. per Sq. Mile†
California....	1	776	241	0.3	1	776	241	0.3
Colorado.....	1	971	449	0.5	1	1,030	1,412	1.4
Colorado.....	..	...	...	...	1	971	449	0.5
Idaho.....	..	...	...	...	1	7,956	4,103	0.5
Nebraska.....	1	721	1,344	1.9	1	721	1,344	1.9
Nebraska.....	1	742	1,676	2.3	1	742	1,676	2.3
Nebraska.....	1	576	1,818	3.2	1	576	1,818	3.2
Nebraska.....	..	...	...	...	1	2,055	4,667	2.3
North Dakota	1	1,168	3,140	2.7	1	720	4,262	5.9
North Dakota	1	720	4,262	5.9	1	1,223	4,150	3.4
North Dakota	1	1,223	4,150	3.4	..	...	...	...
South Dakota	1	530	80	0.2	1	530	80	0.2
South Dakota	1	2,682	3,589	1.3	1	2,682	3,589	1.3
Texas.....	1	895	1,505	1.7	1	895	1,505	1.7
Texas.....	1	1,335	701	0.5	1	866	1,263	1.5
Texas.....	1	867	1,193	1.4	1	1,335	701	0.5
Texas.....	1	753	195	0.3	1	867	1,193	1.4
Texas.....	1	879	1,263	1.4	1	753	195	0.3
Texas.....	..	...	...	...	1	879	1,263	1.4
Utah.....	1	850	411	0.5	1	850	411	0.5
Total.....	16	15,688	26,017	1.7	10	26,427	34,322	1.3

* 1934 and 1936 American Medical Directory.
† U. S. Dept. of Commerce. Fifteenth Census of the United States, 1930.

Measures that may be helpful in relieving an apparent shortage of medical facilities in one community may be inappropriate for another. Any relief must be based on a careful evaluation of many local factors. Some of these factors are:

Density of population.
Productive characteristics of the area.
Annual spendable income per capita.
Distance to surrounding medical facilities.
Characteristics of terrain.
Transportation and communication facilities.
Degree to which the local population appreciates the need for and value of good medical care.
Actual amount of money necessary to maintain good medical facilities.
Extent to which the community is not only able but also willing to support medical accommodations.

It is generally understood among physicians that about 85 per cent of all illnesses can be managed safely and satisfactorily in the home. About 15 per cent of all illnesses are sufficiently serious or complicated to warrant hospital care, if available, both for the welfare of the patient and for the easier application of modern methods of diagnosis and treatment that are afforded the attending physician.

Complaints have come from some rural organizations concerning the mileage charge in certain sections of the country. Conditions affecting transportation differ so widely that the application of a universal rule concerning mileage may be impossible. This, however, is a question for study by state and county medical societies within their jurisdiction. It is possible that some adjustment of fees for certain rural areas might do much to relieve the problem of rural medical service.

Various methods of providing medical facilities for rural districts have been proposed; some have been tried. Some have advocated that the physician be guaranteed a specified income. Such plans, in those places in the United States where they have been used, have survived for only a short time. Small hospitals for rural areas are of no value unless competent physicians are available to provide good service. Areas with sparse population could not support a hospital or a physician.

This subject deserves further careful study.

COOPERATIVES, RESETTLEMENT PLANS AND OTHER NEW FORMS OF MEDICAL PRACTICE

Requests are coming to the Bureau for information concerning the attitude of the American Medical Association toward some of the new forms of medical practice now being proposed in different sections of the United States. The Bureau has confined its activities to the collection of data pertaining to medical economics, the criticism of methods and plans used in the practice of medicine, and the formulation of principles that should govern in good medical practice. Although the Bureau has not yet received documents descriptive of the exact nature and scope of all these new proposals, it is anxious to secure complete information concerning any new movement affecting the practice of medicine.

It appears that there is a steady increase in the number of plans seeking to arrange medical services for those with low incomes. These are now taking the form of benefit associations, cooperatives and corporations. The methods of financial support of these organizations are by membership dues or, in the case of the Resettlement Administration, by loans to clients. Payment for medical services is either on the basis of a prearranged fee schedule or by a fixed salary.

The Rural Resettlement Administration has developed plans for medical care which have been submitted to several state medical societies by the medical officer representing the administration. Two of these plans are given here as presented by the Rural Resettlement Administration.

TENTATIVE PLAN

A proposal for emergency medical care for the 32,000 (approximate) destitute or low-income farm families in Missouri who are Resettlement Administration clients is outlined herewith. The final plan agreed on is to be approved and recommended by the Missouri State Medical Association.

1. Each county medical society will appoint a committee to make contact with and work in cooperation with the county rehabilitation supervisors. This committee from the county medical society may review the list of low income farm families who are the responsibility of the Resettlement Administration in order to obtain information as to who constitute the Resettlement Administration clients in a county.

2. Rural rehabilitation supervisors will canvass their clients and have each family choose the physician who is to be used in case of illness.

3. The Resettlement Administration clients in each county will organize a County Farmer's Aid Association, each member of which will apply to the Resettlement Administration for a loan of $25 to provide emergency medical care for one year. The County Farmers' Aid Association will elect a treasurer, who will be bonded. This treasurer may be any responsible person in the community. When the loan of $25 is received by each family, these funds will be placed by the treasurer, to the credit of the County Farmers' Aid Association, in a local bank. *Only destitute and low income farm families who are the responsibility of the Resettlement Administration will be eligible for membership in the County Farmer's Aid Association.*

4. Physicians in the county who accept the plan will render home and office medical care, including antepartum and obstetric care and ordinary drugs, to Resettlement Administration clients as required. It is expected that the minimum service will be rendered that is consistent with the welfare of the patient. The bill for such services will be rendered to and paid by the treasurer of the County Farmers' Aid Association.

5. A special schedule of fees for Resettlement Administration clients will be agreed on.

6. Special arrangements will be required for hospitalization and surgical operations and shall not be construed to be a part of this plan. A special fee schedule will be agreed on for this service.

7. The advisory committee of the county medical society, on request of the treasurer of the county farmers' aid association, will review such bills for medical care as may seem necessary.

8. This plan will be effective for one year.

TYPES OF ACCEPTABLE COMMUNITY AND COOPERATIVE SERVICES
March 27, 1936
Missco Community Cooperative Medical Association

One hundred and twelve rural rehabilitation clients have organized the Missco Community Cooperative Medical Association in order to provide services of a physician and medicine for themselves on an annual basis.

Each client obtained an individual loan of $30 from the Resettlement Administration to participate in the service.

The president, vice president and secretary-treasurer of the association comprise the board of directors, who retain a competent physician to provide medical service; $3,300 for physician's salary and medicine is authorized.

Membership privileges include:

(*a*) An annual physical examination.

(*b*) Such medical care in home and office as is usually given by a general practitioner, including preventive service for the more prevalent and common diseases (diphtheria, smallpox, typhoid fever, scarlet fever).

(*c*) Medicine for the treatment of ordinary diseases in an amount not to exceed $10 in value for each family. The physician will be reimbursed if he furnished this, or the secretary-treasurer may purchase medicine.
(*d*) An additional $5 fee shall be required for each obstetric case.
(*e*) Excessive night calls shall not be required.
(*f*) In case of a dispute between the doctor and a member, the county supervisor shall arbitrate.

Loans made for participation in the medical service are repaid from income as shown on regular farm and home plans. All client-members live within a six mile radius.

SUGGESTIONS

This division has made the following suggestions to the regional director with respect to this application for guidance in the further development of this type of project:

1. We are also of the opinion that, instead of the flat amount (such as $30 per family regardless of the size of the family) there should be a minimum charge of not less than $1.50 per month per family, and a maximum charge of not to exceed $5 per month per family, with a small fee for additional members over and above a specified number. A family of say three or four members should not be charged the same as a family of ten or twelve. The additional fee might be as small as 15 cents or 20 cents or as high as 50 cents for each individual member, but in no event should the total amount charged to each family exceed the maximum referred to.

2. There may be some instances in which the medical associations would be justified in contracting with a group of doctors, in case they are available, in order that members of the association will have some choice in the selection of the doctor. There may be times when one doctor is unable to serve the needs of the entire group. In such instance, it would be all the more important to be able to employ the services of several doctors.

3. The contract with the doctor, or doctors, should specify clearly the amount paid either monthly or annually.

Some other plans of the Rural Resettlement Administration involve elaborate, complicated and exceedingly broad articles of incorporation which are vague on several important points, as to those who may claim benefits, the period over which the corporation is to operate, the right of clients to choose their own physicians and the profit or nonprofit nature of the organization. The attention of the administration has been called to these and other points which need to be clarified.

Some confusion has been created by designating the Resettlement medical plans as "cooperatives." There is practically no resemblance between these schemes and the cooperatives which are organized on the principles of the Rochdale cooperative plan.

Greater confusion is likely to result from the proposals that are now emanating from the Bureau of Cooperative Medicine. Of the six plans offered by the Bureau of Cooperative Medicine, one is given here:

THE A PLAN

This plan provides complete medical service and hospitalization from the beginning and does not involve partial medical service set-ups.

Money is raised to subsidize the setting up of a Central Medical Group, including equipment, hospital arrangements and guaranty of salary for the Central Specialist Group for three years (from one donor or many makes no difference).

The money raised to provide the subsidy is now returned to the donor and replaced by the aggregate capital funds raised by the sale of bonds. (Initiation fee certificate.)

Interest in the subject is continued by a purely educational program conducted from the Bureau, and when the central specialist set-up is ready, then the "co-ops" are admitted so far as is possible using their own general practitioners in their localities and the already trained specialists at the Central Medical Group.

This Central Medical Group remains as a training school for professional and lay personnel, who will soon be needed to service additional "co-ops."

The Central Medical Group consists of the following:

A centrally located medical center with all the apparatus necessary to make accurate diagnoses.

The offices and consulting rooms of the various specialists as well as a library and a meeting room for consultations, discussions, the reading of papers, and other purposes.

A completely equipped diagnostic laboratory.

A completely equipped x-ray department ready for both diagnosis and high voltage therapy. These facilities will be available to the hospital, so that they need not be duplicated.

Adequate ambulance equipment to transport all hospital cases to the hospital (to be discussed).

A staff of full-time doctors (male and female), who will represent the various phases of medical practice in such a manner that each is practicing that part of medicine for which he is best fitted. Salaries to range from $350 to $1,500 a month net.

Hospital facilities sufficient for the ample and unrestricted hospitalization necessary for a membership of at least 50,000.

Administrative officers and offices.

Each unit should have about 50,000 members (Ross-Loos experience).

About fifty-five doctors to service this group.

All physicians are on a full-time salary basis.

Each family is considered to be husband, wife and two unmarried, dependent children under the age of 18 domiciled in the household.

The original stake for each family will be $50, of which $20 will be payable on application and $15 at the beginning of the next year, and the balance of $15 at the beginning of the second year. In the event that hospitalization is necessary, the entire balance due must be paid in.

The monthly dues will be graded. The first member of the family will pay $3, the second $2.75, and any of the unmarried dependents (children under 18) will pay $1.75. Since the average family consists of husband, wife and two children, their dues will be $9.25 per month, an average of $2.50 per person.

On an individual basis, the monthly dues will be $2.50 per person.

Average stake $12.50 per unit of membership.

Individually (unmarried adults), admission is at $50 stake and $3 per month.

Family incomes range from $2,500 to $4,000.

Considered individually, the income group would be between $800 and $1,200 a year.

Certain people will be willing to make sacrifices in order to join these "co-ops" just as truly as certain will make condescensions.

As soon as enough experience has been accumulated, the expense could be lowered by using less expensive locations or buildings but not cheapen medical skill.

The availability of this type of plan could be increased by allowing the government or employer to assist the low income groups to pay dues—paying part of their dues from public or industrial funds. These low income "co-ops" could serve as training grounds for younger physicians.

Test groups should be put into operation in three different locations: a metropolitan area with its cosmopolitan population, a set of people under similar employment regulations such as government employees, city employees, Consolidated Edison, and a rural area.

The payment of a nominal interest on the original stake might prove a good feature and could be determined by the L. B. M.

This proposal would introduce a type of medical practice only slightly different from club practice and voluntary insurance. There is nothing essentially "cooperative" about it. It seems safe to assume that the introduction of such a scheme would tend to encourage the spread of other schemes strikingly similar to the "club practice" which filled England prior to 1911.

Wherever the cooperatives have used their financial resources and their organization machinery to build up club medical practice, the resulting tendency has been to supply their members with an inferior form of contract medical service. This has been true in this country in the few instances in which attempts at such "cooperative" organization have been made. Any cooperative that would follow a similar policy with regard to distribution of food would be at once condemned by a sincere cooperator. Such proposals gain a hearing only because cooperators are no more able than the rest of the lay public to judge of the quality of medical service.

The creation of new methods of distributing or providing medical services does not call for new and different principles of administration. The element of greatest importance both to the sick person and to the medical profession under any plan is the quality of service. In the principles of medical ethics, the medical profession has a means of safeguarding quality if there is adherence to these principles. Principles of medical economics are being formulated as rapidly as possible. However, under no circumstances must the economic phase of medicine be permitted to assume the primary position that has always been held by medical ethics.

The House of Delegates at the Cleveland session in 1934, and again at the Special Session in February 1935, stated its position with respect to new methods of organizing medical services. These actions still stand as the policy of the American Medical Association. It is of paramount importance for the profession to understand the implications in many of these new proposals, involving as they do the future practice of medicine. Specifically, the purpose and scope of any new plan should be clearly stated. If a plan is proposed for those with low incomes, a limit should be placed on those who may participate.

The medical profession holds that members of "cooperatives" and clients of the Federal Resettlement Administration, no less than other citizens, should be allowed the freedom to choose their own physicians; that there should be a minimum of administrative machinery, and that "bidding" for the care of the sick is inconsistent with the practice of ethical medicine. Some medical societies have created machinery for adjusting complaints and dissatisfaction over medical service and charges;

other societies might well consider the advisability of creating similar machinery. Many plans now being formulated may easily be changed to provide for a staff of salaried physicians and thus will deny to members the freedom to choose their own medical advisers.

Regimentation, regulation, red tape, limitation of choice, compensation by salary, and administration by nonmedical personnel are characteristics of systems of state managed medicine. These characteristics may not all appear at once, but each new proposal should be examined with great care to detect tendencies, implications and hidden phrases which may have grave effects on the future of medicine.

The obligation to treat the sick carries with it an obligation to maintain and improve the scientific methods used in medicine and also to resist those tendencies and influences which would destroy the quality of medical care and ultimately the institution of scientific medicine.

The House of Delegates of the American Medical Association has established certain principles for the guidance of medical societies when they undertake to study and evaluate such matters.

ORGANIZATION OF MEDICAL SERVICES

The Bureau undertook in 1936 to secure from a few medical societies a description of their complete program of activities. A prepared account of the several phases of the work of the county medical societies studied was submitted to each secretary for corrections and additions or deletions. The published descriptions of the activities of these county medical societies appeared in issues of the AMERICAN MEDICAL ASSOCIATION BULLETIN and are now available in reprint form.

It is not claimed that these descriptions represent a typical county medical society program but they do show that it is possible for many medical societies to develop a balanced and comprehensive program of activities beneficial alike to the public and to the medical profession. Some of these activities are: education on the importance of preventive medicine; improvement in arrangements for the care of the indigent sick; cooperation with boards of health and education and with hospitals in the proper allocation of responsibilities and the correction of alleged abuses; organization and coordination of available facilities for low income groups and the provision of additional facilities when needed; conduct of graduate education for practicing physicians; operation of credit and collection bureaus and physicians' telephone exchanges; maintenance of speakers' bureaus, and efforts to protect the public and professional interests in proposed legislation.

All these and other activities require the constant application of the Principles of Medical Ethics and careful study of details in order that methods of medical practice may be made to conform to good public policy.

Summary

It appears that a large percentage of colleges and universities are actually engaged in the practice of medicine. The health education program, in most institutions, seems to have been overshadowed and neglected because of the greater attention given to the clinical and curative phases of student health services. A few educational institutions are confining the activities of their student health services to health supervision and health education; these institutions are utilizing community medical facilities when needed. It seems likely that the health education objectives of student health services will be more readily achieved by establishing a harmonious cooperation between educational institutions and the medical profession. State and county medical societies should welcome the opportunity to assist colleges and universities in arranging an appropriate medical service.

Group hospitalization, as a method of prepayment for hospital care, is being actively promoted throughout many parts of the United States. Actuarial data on which to base sound premium rates are not available. Benefits under these schemes are not limited to low income groups. These schemes often include those who are able to pay fair hospital charges and they have thus far failed to reach a large proportion of the rural and low income population. Most contracts for hospital facilities include some medical services. Hospital insurance schemes tend to accentuate and perpetuate the very conditions which the medical profession and hospital authorities have sought to improve. There appears to be danger that these schemes may include an increasing amount of medical service and thereby place hospitals in the actual practice of medicine.

The hospitalization insurance movement is one of the major issues before the medical profession. Some action is needed to safeguard the security of the plans and to guarantee that the welfare of the sick individual continue to be the primary consideration.

Many problems that confront medicine today are more ethical than economic. Proposals in the field of medical economics should be tested by the principles of medical ethics.

Present evidence seems to indicate that it would be impracticable to organize a national "Benevolent Society" or "Relief Fund" for indigent physicians under the auspices of the American Medical Association. Few of the proposed projects for the establishment of new homes or clubs for aged physicians deserve encouragement. Institutions now in existence can satisfy the demands for facilities to accommodate aged physicians who need or desire institutional care. It seems inadvisable for the American Medical Association to enter the insurance business, although the formation of an agency to secure more advantageous insurance contracts and reduction in premiums might in time become advisable. Such a venture would require very careful preliminary study.

There has scarcely been a time or a place in Western nations during the last century when there have not been complaints of a lack of medical service in rural districts. Reports from sources outside the medical profession of the number of counties having no physicians have been greatly exaggerated. There were only nineteen such counties in 1936. There were, in the same year, 233 counties having a population of 2,000 or more persons per physician. It is recognized that the ratio of population to physician is far from being an exact measure of available medical services. Relief of the shortage of medical facilities for rural communities requires careful study.

The number of new proposals for the organization and distribution of medical services to special population groups is rapidly increasing. These new schemes are taking the form of corporations, mutual benefit associations and cooperatives. They appear to give primary consideration to the methods of payment for medical services. The quality of service and the medical ethics involved are given subordinate consideration, if they are mentioned at all.

There appears to be a tendency in these schemes to favor the employment of salaried physicians and thus to limit freedom of choice. In some instances the cooperation of state and county medical societies has been sought. This appears to be a field in which medical societies should exert their best efforts to maintain high quality of ethical medical service to all sections of the population at fair fees.

Information from several county medical societies indicates that it is possible for these societies to develop and maintain a balanced and comprehensive program of activities beneficial alike to the public and to the medical profession. Such programs should usually conform to community requirements and to good public policy.

Bureau of Health and Public Instruction

As a result of the enlargement and alteration of the Association's building, more commodious and better appointed quarters have been provided for the Bureau of Health and Public Instruction. With improved facilities and enlargement of the official staff, it has been made possible for the Bureau to handle a much larger amount of work and to do its work more efficiently.

CORRESPONDENCE

More than 20,000 written communications were received during the year. The number of letters received as a result of the radio broadcasting program of the Association was more than six times the number of similar communications received in the previous year. There also was a large increase in the number of letters received from laymen asking for specific information about matters pertaining to health and to the prevention of disease. Such growth in the work of the Bureau involves a consideration of what may be expected in the future. The better the service rendered, the greater the demands made on the Bureau for providing information. It is confidently expected that the continuation of the radio broadcasting program will inevitably produce a constantly increasing number of inquiries from the lay public.

RADIO PROGRAM

The weekly dramatized radio broadcasting program, initiated in October 1935, was continued without interruption until June 1936. In October 1936 the weekly programs were resumed and have been given each week with only one interruption, when the broadcasting period was relinquished in favor of a broadcast by the President of the United States. The total number of dramatized programs broadcast up to the time of the preparation of this report is forty-four over the National Broadcasting Company network and one over the Columbia Broadcasting System. Additional broadcasts over the National Broadcasting Company facilities and over the Columbia Broadcasting System were made as a part of a special program at the time of the annual session of the Association held in Kansas City in May 1936.

In view of the special nature of the dramatized presentations and the large amount of favorable attention which the broadcasting program attracted in its first season, the closest possible attention has been given to the difficult problem of maintaining the quality of this program. Officials of the National Broadcasting Company have indicated that there is no falling off in the attraction value of the dramatized presentations. Important publications have commented most favorably, and the president of the Radio Corporation of America has included the Association's dramatized radio broadcast as one of the six outstanding educational programs on the networks of the National Broadcasting Company.

The Bureau has continued the maintenance of the radio library, intended to be used for aiding component and constituent associations that may desire to conduct broadcasting programs. During the year, ninety-four new radio talks were added to the library so that the total number of titles is now 873. The use of this library by state and county medical societies apparently is diminishing, and it is possible that this is to be explained by the evidently increasing popularity of the dramatized presentations of the American Medical Association.

The National Broadcasting Company has contributed in great measure to the success of the educational radio program, and its official representatives have at all times been generous in extending their individual cooperation.

COOPERATION WITH STATE AND COUNTY MEDICAL SOCIETIES AND OTHER ORGANIZATIONS

The Bureau has continued its cooperation with state and county medical societies and with other organizations by attempting to act as a clearing house for information concerning health and to further cordial relations between the medical profession and organizations of various kinds that have interested themselves in public health matters, including, especially, official health departments. For these purposes the Director of the Bureau has attended conferences with the Joint Committee on Health Problems in Education, the organization of state and territorial health officers with the Children's Bureau of the U. S. Department of Labor, groups of officers of medical societies, the American Public Health Association, the First National Conference on Educational Broadcasting, the National Conference on College Hygiene, the Conference on Venereal Disease Control Work, the General Federation of Women's Clubs Advisory Committee, and other groups.

It may be said, in general, that the attitude of organizations with which cooperative contact has been made has been very satisfactory. The attitude of officials of the federal government has been friendly and cooperative. It would appear that the maintenance of such contacts already established and the furtherance of additional contacts will be highly desirable and necessary for promoting the interests of the organized medical profession and providing such aid as the profession can give to worthy organizations that are interested in the promotion of the public health. Policies adopted at gatherings of national scope frequently may be expected to percolate very slowly and, perhaps, unsatisfactorily, to the ultimate point where a definite program may be applied in the local community. It will require the exercise of patience and intelligent effort on the part of the medical profession to keep these nationwide programs on a satisfactory plane of sane and sensible operation and to provide the helpful guidance that no group other than the medical profession can offer.

One of the most important conferences pertaining to public health was the Conference on Venereal Disease Control Work called by the Surgeon General of the United States Public Health Service, the details of which were summarized in an editorial that appeared in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Jan. 9, 1937. This conference was well organized and well attended. In its deliberations, full recognition was given to the importance of the general practitioner of medicine in any plan designed to effect better control of venereal diseases.

HYGEIA CLIPPING LOAN COLLECTIONS

The loan service of HYGEIA clippings, begun experimentally in 1932, was developed to the degree originally planned and intended for the first time in 1936. Collections of clippings are, on request, lent to physicians without charge. Physicians who avail themselves of the use of this material are expected to return the collections within ten days and to pay return postage. Physicians in thirty-eight states have availed themselves of this service.

PROTECTION FOR MEDICAL RESEARCH

This bureau has attempted to cooperate with the Committee for the Protection of Medical Research and, in an effort to be helpful in this direction, has distributed among the students of medical schools more than 5,000 copies of the pamphlet entitled "Animals in Research."

COOPERATION WITH LAY ORGANIZATIONS

The Director of the Bureau of Health and Public Instruction has served as a member of official committees of a number of important lay organizations of national scope.

The National Congress of Parents and Teachers has continued its efforts to have its Summer Round-Up conducted on a basis satisfactory to the medical profession and has placed special emphasis on the desirability of having examinations of children made by the family physician rather than through assembled group clinics. More emphasis has been placed on proper compensation for physicians' services in connection with the Summer Round-Up examinations. Through the Bureau, the American Medical Association has continued to provide a certain number of the examination forms for use in the Summer Round-Up.

The General Federation of Women's Clubs, through its Department of Health and Welfare, has continued its program and, during 1936, promoted a program of education of its own members with respect to maternal hygiene and other important subjects. The federation, like the National Congress of Parents and Teachers, shows a very definite desire to cooperate as fully as possible with the medical profession.

The National Committee for Boys' and Girls' Club Work is carrying on in individual communities programs of constructive character in health education and health promotion.

The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association has continued its activities, as indicated in previous reports and in special reports submitted to the Board of Trustees of the Association.

It seems perfectly evident that in the future the importance of preventive medicine will be stressed more than ever before, and it is highly desirable that the closest possible cooperation

should exist between the organized medical profession, official departments of health and special organizations whose purpose is to promote the betterment of the general health.

FIELD WORK

During the year the Director and Assistant Director of the Bureau appeared as participants in the programs of medical societies in various parts of the United States and also appeared before a number of meetings arranged by lay organizations. The total number of addresses delivered was ninety-two. Numerous invitations to appear at meetings arranged by medical societies or under the auspices of lay groups had to be declined because of the pressure of other official duties.

OTHER ACTIVITIES

The Bureau has continued its cooperation with other departments of the Association and has prepared a large amount of material for publication in THE JOURNAL and in other publications, including HYGEIA. In cooperation with the Bureau of Exhibits, exhibit material was prepared for the Association's exhibits at the California-Pacific International Exposition, the Texas Centennial Exposition, the meeting of the American Public Health Association and the annual session of the American Medical Association at Kansas City.

An important part of the work of the Bureau of Health and Public Instruction has to do with the printing and distribution of pamphlets of an educational nature. Seventeen new pamphlets were added to the list of Bureau publications in 1936, while two of the older pamphlets were revised and five discontinued.

Summary

Better and more commodious quarters have been provided and the activities of the Bureau of Health and Public Instruction have been expanded.

The dramatized radio broadcasting programs initiated in 1935 have been continued and have attracted widespread interest. Ninety-four new "radio talks" have been added to the radio library maintained for the use of state and county societies.

The Bureau has attempted to cooperate as fully as possible with component and constituent societies and with other worthy organizations. The Director has served as a member of advisory committees of several important lay organizations of national scope.

The Director and his assistant participated in the programs at ninety-two meetings of professional and lay groups during the year.

There was a material increase in correspondence in 1936, many inquiries having come from laymen.

Bureau of Investigation

The Bureau of Investigation continues to receive many requests for information pertaining to the subjects with which the Bureau is concerned. During 1936 approximately 10,000 direct inquiries were received and answered, these inquiries being about equally divided between laymen and physicians. In previous years each of such inquiries generally has contained a single question, but lately many of them ask for information concerning several different matters. Careful attention is given to each item and, in some instances, it is necessary to give much time and effort to secure authentic information on which replies can be properly based.

In addition to inquiries and requests received from individuals, a great many come from newspapers, magazines and radio broadcasting stations, most of them pertaining to advertising offered for publication or for broadcasting. Teachers and students are constantly utilizing the services of the Bureau of Investigation, and there is considerable demand from these sources for pamphlets, posters and educational material.

During the year the Bureau has attempted to be of assistance in a number of instances to the Federal Trade Commission, the Food and Drug Administration, the Post Office Department and the Federal Bureau of Investigation as well as to Better Business Bureaus and law enforcement agencies in various cities.

An entirely new and revised edition of Nostrums and Quackery and Pseudo-Medicine was published in December 1936, the revision having been made by Dr. Arthur J. Cramp, formerly Director of this Bureau. Thirteen articles prepared by the Director of the Bureau appeared in THE JOURNAL during the year covered by this report.

The demand made on the Bureau's lantern slide loan service was about equal to that of previous years. This service is utilized most largely by physicians, health officers and educators in connection with lectures dealing with "patent" medicines and medical frauds.

The Director of the Bureau delivered twenty-two addresses during the year, nearly all of them having been presented to lay audiences.

Summary

Approximately 10,000 direct inquiries from laymen and physicians were received and answered by the Bureau in the past year. The Bureau has attempted to be of assistance to various departments of the federal government and to Better Business Bureaus and official agencies of various cities. There has been the usual demand for the publications of the Bureau.

A new edition of Nostrums and Quackery and Pseudo-Medicine, completely revised, came from the press in December 1936.

The Director of the Bureau appeared before twenty-two audiences in various states during the year and prepared thirteen articles for publication in The Journal.

The material available through the lantern slide loan service of the Bureau continues to be utilized by physicians, health officers and educators.

Bureau of Exhibits

The Bureau of Exhibits is concerned with the administration of the work of the Committee on Scientific Exhibit, which is in charge of the scientific exhibits at annual sessions of the Association, with the preparation, distribution and in some instances the installation of exhibit material shown at meetings of scientific organizations, with the preparation, installation and supervision of exhibit material displayed at conventions and expositions, and with the preparation and distribution of educational exhibits lent for display under the auspices of important semiscientific and lay organizations.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit at the Kansas City session, while smaller than that at the annual session in the preceding year, entirely filled available space. Because of the lack of room it became necessary to omit some excellent individual exhibits. Considerably more than 200 applications for space in the Scientific Exhibit at Kansas City were received, and 174 of them were accepted. Two special exhibits, made possible through appropriations by the Board of Trustees, were also shown at Kansas City.

The Council on Scientific Assembly and the officers of the sections cooperated closely with the Committee on Scientific Exhibit, so that subjects treated in thirty-eight papers read before the sections were dealt with in the exhibits. Each section of the Scientific Assembly appointed a committee to assist the Committee on Scientific Exhibit in obtaining desirable material, and the services of these section representatives were of great value and were gratefully appreciated.

The exhibits at the Kansas City session covered almost the entire field of medicine and some of the allied sciences and attracted genuine interest on the part of physicians in attendance, since the exhibit hall was crowded with visitors throughout the entire session.

The special exhibit on diabetes was made possible through the active assistance of the following committee: Drs. E. P. Joslin, Charles H. Best, Louis I. Dublin, Ralph H. Major, Howard F. Root, Bertnard Smith and Russell M. Wilder. This exhibit was splendidly demonstrated and, in addition, thirty-four short talks on the subject of diabetes were made by splendidly qualified physicians in a room appointed for the purpose, where motion pictures on diabetes also were shown at various intervals during the session.

The special exhibit on fractures was prepared under the direction of a committee consisting of Drs. Kellogg Speed, Frank D. Dickson and Walter Estell Lee. This committee had

the assistance of an advisory committee composed of prominent surgeons from various parts of the United States. Fifty-two physicians assisted in the demonstration of the exhibit. Efficient service, through the courtesy of the Surgeon General of the United States Army, Colonel E. M. Blanchard and men from the Station Hospital at Kansas City, was rendered in connection with the fracture exhibit. Without their much appreciated services, the value of this exhibit would have been greatly lessened. The management of St. Luke's Hospital in Kansas City provided nurses and some supplies for the exhibit on fractures, and sincere appreciation for the fine work rendered by the nurses is here acknowledged.

The Committee on Awards, composed of Drs. Ludvig Hektoen, A. H. Aaron, Walter Freeman, Thomas Parran Jr. and W. W. Wasson, gave devoted service in discharging the important task assigned to it, which was made more difficult by reason of the wide scope of the exhibits and the excellence of the material that required their consideration. The members of this committee were on duty continuously for three days. It is evident that their judgment in making awards was beyond criticism, since no word of complaint has been heard.

ASSOCIATION EXHIBITS

Exhibit material depicting the work of the various councils, bureaus and departments of the American Medical Association has been prepared by the Bureau of Exhibits with the cooperation of administrative officers, and this material has been used widely. On more than 100 occasions, exhibits were shown during the year 1936 at the meetings of state and county medical societies and of approved scientific organizations, at public expositions, fairs and conventions. No material has been sent for exhibit purposes in any community except with the approval of the constituent state medical association or component county medical society concerned. At times as many as ten separate exhibits were being shown in widely separated places at the same time. Material prepared by the Bureau was exhibited in twenty-eight states. On several occasions, exhibits have been lent to state medical associations for a period of three weeks to be routed throughout the state on schedules arranged by the officers of the state associations.

Special exhibits were prepared and shown at the request and with the cooperation of the State Medical Association of Texas and the California Medical Association for the Texas Centennial Exposition and the California-Pacific International Exposition. The material shown in these exhibits was seen by great numbers of those in attendance at the expositions.

CENTRAL SCIENTIFIC EXHIBIT

The Central Scientific Exhibit, formerly installed in the Association's own building, was turned over to the Rosenwald Museum of Science and Industry in 1934. This exhibit has not yet been permanently installed because of the unfinished condition of the museum. It is understood that the museum building is now being completed. From time to time the Bureau of Exhibits has been permitted to utilize material which eventually will be permanently installed in the Museum of Science and Industry.

Summary

The Scientific Exhibit at the Kansas City session, while smaller than the exhibit of the preceding year, was of high quality and filled all available space. The Council on Scientific Assembly and the officers of the scientific sections cooperated closely with the Committee on Scientific Exhibit and with the Bureau.

The special exhibits on diabetes and fractures were of high quality and were splendidly demonstrated.

Exhibits were installed at the California-Pacific International Exposition and at the Texas Centennial Exposition.

National Department of Health

At various times within the last twenty-five years, proposals have been advanced that a national department of health with a member of the President's cabinet at its head should be established by the federal government. The American Medical Association, through its House of Delegates, has on more than one occasion expressed approval of the idea that a national department of health under qualified direction should be established on the ground that the medical and public health activities of the federal government cover such wide scope and are of such great importance to the general welfare that they might well be administered under a central agency, with qualified administrative officers, on the same footing as other major departments of the federal government.

It is only fair to say in this connection that there never has been complete unanimity of opinion among the members of the medical profession in the United States with respect to such proposals, largely because there has been a fear in the minds of some physicians that at some time a national department of health, if established by the federal government, might come to be under the direction or control of administrators not well qualified to direct the medical and public health affairs of the government.

Within recent years there has been discussion at various times of proposals to the effect that a department of social welfare, charged with the administration of governmental functions pertaining to education, to medicine and public health and to social service, should be established. Such proposals, having come to the attention of the Board of Trustees, were given careful study and, at a special meeting Jan. 8, 1937, the following statement pertaining to reorganization of governmental activities was adopted as representing the considered opinion of the Board of Trustees:

"Recognizing that committees of the Senate and of the House of Representatives of the United States government and a special committee appointed by the President are at this time concerning themselves with the reorganization of government activities with a view to greater efficiency and economy, and recognizing also that the President, in his opening address to Congress, indicated that he would shortly present to the Congress recommendations for such reorganization of governmental activities in the executive branches, and recognizing moreover the great desirability that all activities of the federal government having to do with the promotion of health and the prevention of disease might with advantage be consolidated in one department and under one head, the Board of Trustees of the American Medical Association would recommend that such health activities as now exist be so consolidated in a single department which would not, however, be subservient to any charitable, conservatory or other governmental interest. It has been repeatedly said that public health work is the first problem of the state. It is the opinion of the Board of Trustees that health activities of the government, except those concerned with the military establishments, should not be subservient to any other departmental interests. This reorganization and consolidation of medical departments need not, under present circumstances, involve any expansion or extension of governmental health activities but should serve actually to consolidate and thus to eliminate such duplications as exist. It is also the view of the Board of Trustees that the supervision and direction of such medical or health department should be in the hands of a competently trained physician, experienced in executive administration."

Copies of this statement as printed in THE JOURNAL were transmitted to the President of the United States and to others in official position in Washington, and the attention of the constituent state medical associations was especially called to the action of the Board. Soon afterward the President, in accordance with a statement made in his opening address to Congress, submitted a special message to Congress on the reorganization of governmental departments and, in this message, recommended the creation of a department of social welfare.

Extension of Medical Service to the Indigent

At the special meeting of the Board of Trustees held Jan. 8, 1937, the following statement pertaining to medical service to the indigent was adopted and later appeared in THE JOURNAL:

"In the past, the medical profession has always been willing to give of its utmost for the care of those unable to pay. The available evidence indicates that today throughout the United States the indigent are being given a high quality of medical care and medical service. Nevertheless, the advances of medical science have created situations in which a group of the

population neither wholly indigent nor competent financially find themselves under some circumstances unable to meet the costs of unusual medical procedures. The Board of Trustees of the American Medical Association points out the willingness of the medical profession to do its utmost today, as in the past, to provide adequate medical service for all those unable to pay either in whole or in part. Members of the medical profession, locally and in the various states, are ready and willing to consider with other agencies ways and means of meeting the problems of providing medical service and diagnostic laboratory facilities for all requiring such service and not able to meet the full cost thereof. These are problems for local and state consideration primarily rather than problems of federal responsibility. The willingness of the medical profession to adjust its services so as to provide adequate medical care for all the people does not constitute in any sense of the word an endorsement of health insurance, either voluntary or compulsory, as a means of meeting the situation."

Occupational Diseases and Industrial Medicine

At the Kansas City session a resolution introduced by Dr. A. R. McComas, Missouri, pertaining to the control of occupational diseases was referred to the Reference Committee on Hygiene and Public Health. This committee, after conferences with the sponsor of the resolution and others interested, submitted the following substitute resolutions, which were approved by the House of Delegates:

WHEREAS, In recent years there has developed an increase in recognition of the seriousness of diseases arising from conditions to which workers are exposed from certain occupations; and

WHEREAS, The diagnosis of such diseases is possible only by physicians, and the correction of such conditions as would tend to eliminate the hazards can best be carried out under the guidance and administration of physicians, particularly physicians trained and experienced in industrial hygiene or public health; therefore be it

Resolved, That it be deemed essential that any active efforts by governmental agencies to study and to take measures tending to eliminate occupational diseases should be carried out under the supervision of the city, state or federal departments of health in this country and that this Association do all within its power to assist in this endeavor; and be it further

Resolved, That the Board of Trustees of this Association continue and enlarge its study of industrial hygiene, occupational diseases, and particularly silicosis, to the end that uniform legislation be put into effect in all the states to control these conditions.

The importance of matters to which these resolutions pertain had been previously recognized by the Board of Trustees, and the Bureau of Legal Medicine and Legislation and other official agencies of the Association had given close attention to various developments and organized movements in the general field of industrial medicine. The Section on Dermatology and Syphilology also had interested itself rather extensively in the study of industrial dermatoses and had adopted a report of a special committee of the section asking for the cooperation of the Association in the establishment of "a central clearing house" for the accumulation and recording of information on industrial dermatoses.

These matters were further considered by the Board of Trustees at official meetings held during the year 1936, and March 12, 1937, a conference was held, participated in by the members of the Executive Committee of the Board of Trustees and a group of physicians who were known to have given careful study to the various problems involved in the general field of industrial hygiene. Members of the Association's administrative personnel also were present. The group invited to attend this conference included medical representatives of the United States Public Health Service, of industrial organizations and of insurance companies and physicians engaged in private practice. After a most illuminating discussion, which lasted through the greater part of a whole day and was participated in by all who were present, it was apparent that there was unanimous opinion to the effect that the American Medical Association should establish a council to deal with matters pertaining to the control and prevention of occupational disease and to the administration of medical services established by industrial organizations.

The recommendation of the conference was to the effect that a council to be known as the Council on Industrial Health should be established and maintained by the American Medical Association.

To include in this report a complete statement setting forth the reasons that might be advanced in support of the proposal to establish a Council on Industrial Health would require an undue amount of space, but a complete account of the proceedings of the conference referred to will be placed at the disposal of the House of Delegates or of the Reference Committee to which this matter is referred for consideration.

The Board of Trustees desires to express its appreciation for the suggestions and advice of the group of physicians who attended the conference with the Executive Committee and to acknowledge gratitude to them for their generous and valuable contribution toward the proper consideration of the proposals for the creation of a Council on Industrial Health.

Motion Picture on Syphilis

In view of the widespread interest aroused through the activities of the United States Public Health Service in promoting plans for better control of venereal disease, the Board of Trustees has entered into cooperative arrangements with the United States Public Health Service in the production of a motion picture on syphilis. Plans have been made for the showing of this picture at the Atlantic City session. Copies of the film will be made available for the use of constituent and component medical societies, and it is earnestly hoped that the picture will have great educational value.

Appointment of Committees

In accordance with the provisions of resolutions submitted to the House of Delegates at the Kansas City session, the following committees were appointed by the Board of Trustees, the President or the Speaker of the House of Delegates, as indicated:

Committee to Study Air Conditioning, appointed by the Board of Trustees: Dr. Carey P. McCord, chairman, Detroit; Dr. Emery R. Hayhurst, Columbus, Ohio; Dr. William F. Petersen, Chicago; Dr. H. B. Williams, New York; Prof. C. P. Yaglou, Boston.

Committee on Asphyxia, appointed by the Board of Trustees: Dr. Paluel J. Flagg, Chairman, New York; Dr. John S. Lundy, Rochester, Minn.; Dr. Thomas J. Vischer, Philadelphia.

Committee on Medicolegal Blood Grouping Tests, appointed by the Board of Trustees: Dr. Ludvig Hektoen, chairman, Chicago; Dr. Karl Landsteiner, New York; Dr. Alexander S. Wiener, Brooklyn.

Committee to Study Problems of Motor Vehicle Accidents, appointed by the President: Dr. Herman A. Heise, chairman, Milwaukee; Dr. Burt R. Shurly, Detroit; Dr. Thomas A. McGoldrick, Brooklyn; Dr. C. W. Roberts, Atlanta, Ga.; Dr. Cary T. Grayson, Washington, D. C.

Committee to Propose Amendment to By-Laws Providing for Fitting Recognition to Fellows Rendering Distinguished Service in Science of Medicine, appointed by the Speaker of the House of Delegates: Dr. H. H. Shoulders, chairman, Nashville, Tenn.; Dr. John W. Amesse, Denver; Dr. J. D. Brook, Grand Rapids, Mich.; Dr. John F. Hassig, Kansas City, Kan.; Dr. Grant C. Madill, Ogdensburg, N. Y.

The Board of Trustees also appointed during the year a Committee to Determine the Value of X-Ray Film with Paper Base as a Substitute for Film with Gelatin Base, the members of which are as follows: Dr. Hollis E. Potter, chairman, Chicago; Dr. Edward H. Skinner, Kansas City, Mo.; Dr. H. Kennon Dunham, Cincinnati; Dr. J. A. Myers, Minneapolis; Dr. Homer L. Sampson, Trudeau, New York.

Reports of these committees which are not contained in this Report of the Board of Trustees are to be presented to the House of Delegates at the Atlantic City session.

Respectfully submitted.

ROCK SLEYSTER, Chairman.
JAMES R. BLOSS.
AUSTIN A. HAYDEN, Secretary.
ARTHUR W. BOOTH.
ALLEN H. BUNCE.
THOMAS S. CULLEN.
RALPH A. FENTON.
ROGER I. LEE.
CHARLES B. WRIGHT.

ADDENDA TO REPORT OF BOARD OF TRUSTEES

Report of Committee to Study Air Conditioning

Following a resolution, introduced and favorably passed on in the House of Delegates during the Kansas City session in 1936, the Board of Trustees, during a September meeting, created a Committee to Study Air Conditioning. The following persons were appointed on this committee: Dr. Emery R. Hayhurst, Columbus, Ohio; Dr. William F. Petersen, Chicago; Dr. H. B. Williams, New York; Mr. C. P. Yaglou, Boston, and Dr. Carey P. McCord, Detroit. In November 1936 the members of the committee were called together for organization purposes. With all committeemen in attendance, the decision was made to undertake as a first objective the compilation and publication of a series of authoritative articles related to various aspects of air conditioning. The topics to be covered in early publications include "The Physiologic Changes in Human Beings Related to Atmospheric Conditions," "The Pathology of Disease States Attributable to Unsuitable Atmospheric Conditions," "The Field of Application for Artificial Air Conditioning," "The Requirements of Air Conditioning for Hospitals" and "The Clinical Manifestations of Abnormal States Attributable to Unsuitable Air Conditions." For collaboration on the last named topic, a subcommittee was created, consisting of Dr. Henry Hurd, New York; Dr. Howard Hartman, Rochester, Minn.; Dr. Thomas Crowder, Chicago, and Dr. Lee Bristol, New York.

By the time of the Atlantic City session, 1937, three of the committee's reports will have been published or will be ready for publication. These reports respectively will deal with the "Physiologic Requirements of the Human Body as to Air Conditioning," Part I "During Summer Months" and Part II "During Winter Months" and "The Requirements of Hospitals as to Air Conditioning."

For the necessary expenses of this committee, an appropriation of $2,500 was made by the Board of Trustees. Of this sum, $700 has been set aside for the compilation of a complete bibliography on air conditioning. This preparation of bibliography material has been undertaken jointly by Professor Yaglou and Dr. Hayhurst, members of the committee, together with Dr. Teleky of Europe, who is bringing together the most important foreign material related to air conditioning.

The items of work now under way will be completed about Dec. 31, 1937.

CAREY P. MCCORD, Chairman.
H. B. WILLIAMS.
E. R. HAYHURST.
W. F. PETERSEN.
C. P. YAGLOU.

Report of the Committee on Asphyxia

THE PROBLEM

Asphyxia as a terminal complication precedes numerous deaths and widespread morbidity from a variety of causes. The question What can be done through the prevention and treatment of asphyxia? has been raised and your committee has been called on to make a short report without the benefit of an exhaustive study of the question.

It is conceded that the problem had best be attacked without haste. In time, the work may be so organized as to permit a reasonable expectancy of success. Of necessity, omissions of more or less important aspects of the problem will occur. We propose, however, to consider these as they appear, limiting our attention at this time to those groups in which the prevention of asphyxia or its treatment offers a problem of sufficient importance to engage the attention and enlist the action of the Trustees of the American Medical Association. The fields which, we believe, need immediate attention are to be noted as follows:

1. Asphyxia neonatorum.
2. Asphyxia from gases, used industrially.
   (*a*) Carbon monoxide from illuminating gas and from engine exhaust.
   (*b*) Refrigerants such as ammonia, carbon dioxide and dry ice.
   (*c*) Fumes in the manufacture of chemicals.
   (*d*) Gases associated with the oil industry.
   (*e*) Gases in the mining industry.
   (*f*) Fumigation for disease; the destruction of rodents on board ship and elsewhere.
3. Asphyxia from gases, in warfare.
4. Asphyxia from drugs, hypnotics, narcotics and sedatives, including acute alcoholism.
5. Asphyxia from disease, such as acute pulmonary conditions, asthma and cardiac decompensation.
6. Asphyxia from developmental and mechanical abnormalities, such as neonatal atelectasis and collapse of the lung.
7. Asphyxia from anesthesia due to overdosage, idiosyncrasy or a failure to meet mechanical obstruction, occurring in relaxation.
8. Asphyxia from drowning (submersion).
9. Asphyxia from flying at high altitudes.
10. Asphyxia from fire fighting (smoke, chemical poisoning).
11. Asphyxia from obstruction by foreign bodies.
    (*a*) Material caught in the esophagus or inhaled.
    (*b*) Tumors or infections within or without the airway.
12. Asphyxia from electrocution.
13. Asphyxia from strangulation.
14. Asphyxia from allergy.
15. Asphyxia from terminal poliomyelitis.

TREATMENT IS SIMILAR, IRRESPECTIVE OF THE CAUSE

It will immediately be asked Why are so many apparently unrelated entities considered under the head of asphyxia? The reason for so considering the many and various causes of asphyxiation is that, once the predisposing or immediate causes of asphyxiation are removed, the treatment, regardless of the etiology, is always the same. For example, once the electrocuted person is detached from the current causing the accident, the submerged patient is lifted out of the water or the foreign body is removed, the basic problem in each case is reduced to the introduction of oxygen into the respiratory tract, the support of the centers governing respiration, and the stimulation of the circulation.

The brevity of this report precludes the consideration of detailed specific information for the conditions inducing asphyxiation.

METHODS BY WHICH THE PROBLEM OF ASPHYXIATION MAY BE ATTACKED

Your committee believes that the attack on the problem of asphyxia lies in:

Publicity, by which the attention of the medical profession and the public may be directed to the frequency of death due to asphyxiation.

Organization, to coordinate available information as well as agencies and groups whose normal activity bring them into frequent contact with asphyxial emergencies.

Action, developed as the result of publicity and organization. To stimulate research and to develop a personnel, both lay and medical, capable of carrying out treatment appropriate for the specific case.

The problem of asphyxiation is one that extends outside the immediate confines of the practice of medicine. It impinges directly on industry and the utilities and forms a vital problem in the defense of the nation against gas attacks by a foreign power.

While much valuable work has been done through statistical and other studies conducted by industrial organizations, attacking the problem of carbon monoxide and other specific causes of gas poisoning, and while measures to reduce asphyxiation from drowning have been intensively carried out, notably by the state of Rhode Island, and while first aid measures made available through many police and fire departments leaves little to be desired, your committee is nevertheless impressed by the sporadic and limited nature of such efforts, the lack of publicity attending successful organization, and the entirely unwarranted publicity frequently accompanying unscientific efforts to treat asphyxiation.

Your committee is furthermore impressed by the need of proper organization and supervision of lay groups by a trained and experienced medical personnel. Coordination between the physician and the lay group is often entirely lacking and might well be encouraged. There is not so much a lack of information on the subject of asphyxia as there is a lack of a general knowledge of available technic and equipment. Furthermore, while the specific treatment of any of the stated causes of asphyxiation is well known to those who have done special work on the problem, such treatment developed as a medical routine is by no means the common property of practicing physicians.

The recognition of the problem of asphyxia, implying as it does the loss of at least 50,000 lives a year, brings with it the challenge to reduce these deaths by a carefully worked out program to be carried out over a long period.

PROPOSED COMMITTEE PROGRAM

General.—Your committee believes that it may be of immediate service to the American Medical Association by acting in an advisory and coordinating capacity.

This assistance and coordination may take the form of a continued program, including a method of attack by public education, research, and the postgraduate instruction of physicians.

Arrangements may be made for the preparation of a series of articles in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

Questions relative to resuscitation apparatus and technic referred to it from the Council on Physical Therapy may well come under its purview.

Your committee suggests the desirability of taking over the work and carrying on the program initiated and maintained for the last four years by the Society for the Prevention of Asphyxial Death. Informative material accumulated by this organization might be filed by the committee for the use of the Association, and contacts with organizations and groups interested in the prevention of asphyxial death may be preserved and developed.

Your committee believes that it may be helpful and awaits instruction and power to act as a coordinating agency in the assembly of information from and the dissemination of information through the various committees and bureaus of the American Medical Association.

Realizing the magnitude of the task presented by the problem of asphyxiation, its presentation and control, your committee feels it necessary to reaffirm its conviction that progress can be made only by a well planned attack over a period of time.

Specific and Immediate Steps.—Of fundamental importance in the preparation of this attack is the assembly of exact information to be used in the listing of asphyxial deaths. There must be established, first of all, a clear cut and generally accepted list of causes of asphyxiation; secondly, these causes must appear in national death returns, where they may be segregated and studied. Such returns may be reported each year and reduced mortality, due to preventative measures, noted. Your committee suggests that such an annual report of vital statistics relative to asphyxiation appear annually in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION at a stated date.

Following the accumulation and analysis of asphyxia statistics, intensive efforts may be made to reduce asphyxiation in the various groups in which it is most prevalent. For example, an early and a concentrated effort might well be made to reduce asphyxia in the new-born, since this type of asphyxiation constitutes more than 60 per cent of the total asphyxia mortality. Synchronously or at a later period, asphyxiation from gases used industrially, from gases in warfare, from submersion, from foreign body obstruction, from anesthesia, from drugs and from disease may each receive attention in the order of importance.

In conclusion, your committee requests the necessary financial assistance to carry out the recommendations reported.

Respectfully submitted.

JOHN S. LUNDY.
THOMAS J. VISCHER.
PALUEL J. FLAGG, Chairman.

Report of the Committee on Scientific Research for 1936

During the year eighty-two applications received consideration and forty-four awards were made. As heretofore, the new grants support research in various medical fields. Almost without exception, the money has been turned over to the financial officer of the institution in which the grantee works, the understanding being that it would be subject to requisitions by the grantee and that an accurate account of the expenses would be kept. The final or practically final results of work under twenty-six grants have been published or are in the course of publication. The results of the work under thirteen grants prior to 1936 are being prepared for publication. Under thirty-four grants prior to 1936 active work is still in progress; in several cases reports on results have been published. In the case of four grants the files have been closed without any publication of results. Refunds amounting to $1,515.20 have been made during the year of unexpended balances from grants.

The committee would recommend that the same appropriation be made for 1937 as for 1936; namely, $12,550 for grants in aid of medical research and $1,200 for committee expenses. The financial statement for 1936 is presented; also brief accounts of grants pending at the end of 1935 and a list of grants made in 1936.

Financial Statement for 1936

Balance, Jan. 1, 1936	$ 6,232.31	
Appropriation for 1936	13,750.00	
Refund, grant 231	65.76	
Refund, grant 314	91.53	
Refund, grant 327	48.63	
Refund, grant 336	476.94	
Refund, grant 351	250.00	
Refund, grant 353	10.78	
Refund, grant 360	1.30	
Refund, grant 376	300.00	
Refund, grant 383	75.10	
Refund, grant 384	108.00	
Refund, grant 385	.66	
Refund, grant 386	19.65	
Refund, grant 387	20.00	
Refund, grant 390	8.25	
Refund, grant 395	2.20	
Refund, grant 406	.40	
Refund, grant 421	36.00	
		$21,497.51

Grants and Expenses Paid in 1936

Grant 393, Lloyd H. Ziegler and Arthur Knudson	$ 165.00	
Grant 394, Charles Huggins	300.00	
Grant 395, Israel S. Kleiner	350.00	
Grant 396, Valy Menkin	600.00	
Grant 397, R. F. Hanzal	150.00	
Grant 398, George A. Emerson	175.00	
Grant 399, Felix Saunders	250.00	
Grant 400, John Field	200.00	
Grant 401, W. T. Dawson	200.00	
Grant 402, C. H. Thienes and L. T. Samuels	500.00	
Grant 403, Samuel Soskin	750.00	
Grant 404, Peter Heinbecker	750.00	
Grant 405, M. M. Wintrobe	200.00	
Grant 406, Helen C. Coombs	200.00	
Grant 407, Ralph I. Dorfman	250.00	
Grant 408, Gustav J. Martin	200.00	
Grant 409, Lester R. Dragstedt and G. M. Dack	600.00	
Grant 410, H. E. Eggers	200.00	
Grant 411, Fae D. Wood	125.00	
Grant 412, Robert H. Gault and A. C. Ivy	400.00	
Grant 413, Philip Levine	350.00	
Grant 414, John R. Murlin	600.00	
Grant 415, Gordon H. Scott	300.00	
Grant 416, Jean Broadhurst	200.00	
Grant 417, Isaac Schour	400.00	
Grant 418, Frank W. Allen	200.00	
Grant 419, Carl A. Dragstedt	250.00	
Grant 420, Arthur Knudson	400.00	
Grant 421, W. R. Tweedy	150.00	
Grant 422, T. Grier Miller	300.00	
Grant 423, Alfred Gilman	300.00	
Grant 424, Charles P. Sheldon	200.00	
Grant 425, William J. Turner	50.00	
Grant 426, H. P. Smith	500.00	
Grant 427, Helen S. Mitchell	300.00	
Grant 428, D. B. Phemister, K. Grimson and H. Wilson	400.00	
Grant 429, Abraham White	100.00	
Grant 430, S. W. Ranson	315.00	
Grant 431, Benjamin Harrow	200.00	
Grant 432, Roe E. Remington	200.00	
Grant 433, Frederick Lemere	500.00	
Grant 434, Wilbert H. McGaw	500.00	
Grant 435, Warren O. Nelson	300.00	
Grant 436, Albert P. Krueger	300.00	
Clerical Expense	600.00	
Committee Expense	303.71	
Printing and Supplies	25.38	
		$14,809.09
Balance on hand		$ 6,688.42

The committee would recommend that the same appropriation be made for 1937 as for 1936; namely, $12,550 for grants in aid of medical research and $1,200 for committee expenses. The financial statement for 1936 is presented; also brief accounts of grants pending at the end of 1935 and a list of grants made in 1936.

Respectfully submitted.

COMMITTEE ON SCIENTIFIC RESEARCH OF THE AMERICAN MEDICAL ASSOCIATION

LUDVIG HEKTOEN, Chicago, Chairman.
Term expires, 1941.
C. C. BASS, New Orleans.
Term expires, 1937.
JOHN J. MORTON, Rochester, N. Y.
Term expires, 1938.
N. W. JONES, Portland, Ore.
Term expires, 1939.
MARTIN H. FISCHER, Cincinnati.
Term expires, 1940.

GRANTS OF COMMITTEE ON SCIENTIFIC RESEARCH

NEW GRANTS—1936

Grant 393: Lloyd H. Ziegler and Arthur Knudson, Albany Medical College, $165, effect of rickets on activity of rats.

Grant 394: Charles Huggins, University of Chicago, $300, bone marrow.

Grant 395: Israel S. Kleiner, New York Homeopathic Medical College, $350, formation of cevitamic (ascorbic) acid.

Grant 396: Valy Menkin, Harvard Medical School, $600, iron metabolism and effect of ferric chloride on tuberculosis.

Grant 397: R. F. Hanzal, Western Reserve University, $150, source of endogenous uric acid and the effects of methylated xanthines on its secretion.

Grant 398: George A. Emerson, West Virginia University, Morgantown, $175, metabolic products of sympathomimetic amines.

Grant 399: Felix Saunders, University of Chicago, $250, essential growth factor for bacteria.

Grant 400: John Field, Stanford University, $200, effect of dinitrophenol on the lens.

Grant 401: W. T. Dawson, University of Texas, Galveston, $200, toxicity of cardiac glucosides.

Grant 402: C. H. Thienes and L. T. Samuels, University of Southern California, $500, carbohydrate metabolism as influenced by the hypophysis.

Grant 403: Samuel Soskin, Michael Reese Hospital, Chicago, $750, laboratory tests for endocrine dysfunctions.

Grant 404: Peter Heinbecker, Washington University, St. Louis, $750, mechanism of altered sensitivity of smooth musculature to epinephrine.

Grant 405: M. M. Wintrobe, Johns Hopkins University, $200, vertebrate red corpuscles.

Grant 406: Helen B. Coombs, New York Homeopathic Medical College, $200, action of acetylcholine on the central nervous system.

Grant 407: Ralph I. Dorfman, Louisiana State University, $250, estrogenic substance in human urine and other estrogenic compounds.

Grant 408: Gustav J. Martin, Trudeau Sanatorium, Trudeau, N. Y., $200, lipoids of tubercle bacilli.

Grant 409: Lester R. Dragstedt and G. M. Dack, University of Chicago, $600, relation of B. necrophorum to chronic ulcerative colitis in man.

Grant 410: H. E. Eggers, University of Nebraska, $200, effect of tetra-methyl-arsonium gluconate on human cancer.

Grant 411: Fae D. Wood, University of California at Los Angeles, $125, distribution of Trypanosoma cruzi in southwestern United States.

Grant 412: Robert H. Gault and A. C. Ivy, American Institute for Deaf-Blind, Evanston, Evanston, Ill., $400, stimulation of vibrotactile organs by mechanical vibrations.

Grant 413: Philip Levine, Newark Beth Israel Hospital, Newark, N. J., $350, bacteriophage action in the dysentery group.

Grant 414: John R. Murlin, University of Rochester School of Medicine and Dentistry, $600, testis hormone.

Grant 415: Gordon H. Scott, Washington University, St. Louis, $300, lead and aluminum in cerebrospinal fluid.

Grant 416: Jean Broadhurst, Teachers College, Columbia University, $200, inclusion bodies in the female genital area.

Grant 417: Isaac Schour, University of Illinois College of Dentistry, $400, parathyroids in calcium metabolism.

Grant 418: Frank W. Allen, University of California, $200, nucleotide of the red corpuscles.

Grant 419: Carl A. Dragstedt, Northwestern University Medical School, $250, rôle of histamine and of adrenal cortex extract in anaphylaxis in the dog.

Grant 420: Arthur Knudson, Albany Medical College, $400, synthesis of cholesterol in the animal body.

Grant 421: W. R. Tweedy, Loyola University, Chicago, $150, action of parathyroid extract.

Grant 422: T. Grier Miller, Hospital of University of Pennsylvania, $300, chemical composition of human succus entericus and absorption of dextrose from small intestine.

Grant 423: Alfred Gilman, Yale University, $300, physiology of the antidiuretic hormone of the posterior pituitary.

Grant 424: Charles P. Sheldon, Albany Medical College, $200, respiration in pregnancy and labor.

Grant 425: William J. Turner, State Tuberculosis Sanatorium, Cresson, Pa., $50, uroporphyrins.

Grant 426: H. P. Smith, State University of Iowa, $500, blood clotting.

Grant 427: Helen S. Mitchell, Massachusetts State College, $300, nutritional cataract in rats.

Grant 428: D. B. Phemister, K. Grimson and H. Wilson, University of Chicago, $400, effect of sympathectomy on blood pressure in dogs.

Grant 429: Abraham White, Yale University, $100, sulfur of proteins.

Grant 430: S. W. Ranson, Northwestern University Medical School, $315, fever producing agents.

Grant 431: Benjamin Harrow, College of the City of New York, $200, purification of the hyperglycemic factor in urine.

Grant 432: Roe E. Remington, Medical College of the State of South Carolina, $200, quantitative effect of iodine deficiency in the rat.

Grant 433: Frederick Lemere, Eastern State Hospital, Medical Lake, Wash., $500, Berger brain rhythms in psychotic patients.

Grant 434: Wilbert H. McGaw, Western Reserve University, $500, sound conduction in fractured bones.

Grant 435: Warren O. Nelson, Wayne University College of Medicine, Detroit, $300, effect of synthetic androgenic substances.

Grant 436: Albert P. Krueger, University of California, $300, nature of bacteriophage.

STATE OF WORK UNDER PREVIOUS GRANTS

1. COMPLETED DURING THE YEAR

Grant 218, 1931: Clayton, J. Lundy, Rush Medical College, Chicago, $1,000 toward making animated motion pictures of the actions of the heart in health and in disease. See description of film showing normal heart action in THE JOURNAL, Dec. 23, 1933, page 2078. Honorable Mention, Scientific Exhibit, A. M. A., 1933. Lundy, C. J.: The Heart Beat Mechanism in Health and Disease, Heart Movie, six reels.

Grant 238, 1932: Harold E. Himwich, Yale University, $1,000, the relation of the autonomic nervous system to metabolism and effect of alcohol on metabolism. Himwich, H. E., and associates: Effects of Alcohol on Metabolism, *Am. J. Physiol.* **101:** 57, 1932; Metabolism of Alcohol, J. A. M. A. **100:** 651, 1933. Barker, S. B.; Fazikas, J. F., and Himwich, H. E.: Metabolic Aspects of Thyroid-Adrenal Interrelationship, *Am. J. Physiol.* **115:** 415, 1936.

Grant 269, 1932: M. M. Wintrobe, Johns Hopkins Hospital, $250, vertebrate red corpuscles. Wintrobe, M. M.: Variations in the Size and Hemoglobin Content of Erythrocytes in the Blood of Various Vertebrates, *Folia haemat.* **51:** 32, 1933. Wintrobe, M. M., and Shumacker, H. B., Jr.: Comparison of Hematopoiesis in the Fetus and During Recovery from Pernicious Anemia, *J. Clin. Investigation* **14:** 837, 1935. Wintrobe, M. M., and Shumacker, H. B., Jr.: Erythrocyte Studies in the Mammalian Fetus and New-Born, *Am. J. Anat.* **58:** 313, 1936. See grant 405, 1936.

Grant 276, 1933: Jessie L. King, Goucher College, Baltimore, $75, effect of cortical extract on suprarenalectomized rats. See grant 391, 1935. King, Jessie L.: Effect of Massive Doses of Adrenal Cortical Hormone on the Albino Rat, submitted for publication in *Proc. Soc. Exper. Biol. & Med.*

Grant 314, 1934: Bernard Portis, Michael Reese Hospital, Chicago, $300, immune reactions of Flexner-Jobling rat tumor. Portis, Bernard, and Roth, Harold: Effect of Immune Serum on Transplantable Flexner-Jobling Rat Carcinoma, *Arch. Path.* **22:** 722, 1936.

Grant 322, 1934: W. J. Nungester, Northwestern University Medical School, $130, the effect of mucin on infection. See grant 352, 1935. Nungester, W. J., and Jourdonais, L. F.: Mucin as an Aid in the Experimental Production of Lobar Pneumonia, *J. Infect. Dis.* **59:** 258, 1936.

Grant 327, 1934: Timothy Leary, Office of Medical Examiner, Boston, $800 for study of cholesterol atherosclerosis in rabbits (refund, $48.63). Leary, Timothy: Atherosclerosis, the Important Form of Arteriosclerosis, a Metabolic Disease, J. A. M. A. **105:** 475, 1935. Leary, Timothy: Atherosclerosis: Special Consideration of Aortic Lesions, *Arch. Path.* **21:** 419, 1936. Leary, Timothy: Atherosclerosis: Etiology, *ibid.*, p. 459.

Grant 333, 1934: Arthur J. Geiger and Louis S. Goodman, Yale University, $250, study of antianemic principle. (See also grant 340, 1934, and grant 382, 1935.) Goodman, L. S.; Geiger, A. J.; and Claiborn, L. N.: Antianemia Potency of Liver After Gastrectomy in Swine, *Proc. Soc. Exper. Biol. & Med.* **32:** 810, 1935. Goodman, L. S.; Geiger, A. J., and Klumpp, T. G.: Concerning the Specific Response of Guinea-Pig's Reticulocytes to Substances Effective in Pernicious Anemia, *J. Clin. Investigation* **15:** 435, 1936.

Grant 341, 1934: Ludwig A. Emge, Stanford University School of Medicine, $500, pregnancy and tumor growth. See grant 365, 1935. Emge, L. A., and Murphy, K. M.: The Relation of the Endocrine System to Tumor Growth, *Am. J. Obst. & Gynec.* **32:** 593, 1936.

Grant 342, 1934: S. S. Lichtman, Mount Sinai Hospital, New York, $400, bile salt metabolism in liver disease. Lichtman, S. S.: The Blood Clearance and Renal Excretion of Bile Acids Following the Intravenous Injection of Cholic and Desoxycholic Acids, *Am. J. Physiol.* **117:** 665, 1936.

Grant 347, 1935: Edward S. West, University of Oregon Medical School, $300, hydroxated fatted acids in tissues. Hafner, P. G.; Swinney, R. H., and West, E. S.: Hydroxylated Acids of Fats: An Improved Method of Determination, *J. Biol. Chem.* **116:** 691, 1936.

Grant 349, 1935: Edward H. Schwab, University of Texas School of Medicine, $200, mechanism of cardiac hypertrophy. See grant 392, 1935. Herrmann, G.; Decherd, G.; Erhard, P., and Schwab, E. H.: Normal Heart Weight/Body Weight (HW/BW) and Left to Right Ventricular (L/R) Ratios for Rabbits, *Proc. Soc. Exper. Biol. & Med.* **33:** 409, 1935. Schwab, E. H.; Herrmann, G., and Connally, J. E., Jr.: Experimental Ablation of Posterior as Contrasted to Anterior Aortic Cusp on Cardiac Hypertrophy in the Rabbit, *ibid.*, p. 410. Decherd, G.; Schwab, E. H.; Herrmann, G., and Brown, W. O.: Creatine Content of Hypertrophied Rabbits' Heart Muscle, *ibid*, p. 521. Herrmann, G.; Decherd, G.; Schwab, E. H., and Erhard, P.: Creatine Content of Digitalized Normal and Hypertrophied Rabbit Heart Muscle, *ibid.*, p. 522. Decherd, G. M., Jr.: Herrmann, G., and Schwab, E. H., *ibid.* **34:** 864, 1936.

Grant 351, 1935: W. O. Thompson, Rush Medical College, $300, effect of enzymatic digestion on desiccated thyroid (refund, $250). Thompson, W. O.; Nadler, S. B.; Thompson, P. K.; Taylor, S. G. III, and Dickie, L. F. N.: A Peptide of Thyroxine with Greater Calorigenic Activity Than Desiccated Thyroid: A Consideration of Methods of Assay, *J. Clin. Investigation* **15:** 473, 1936.

Grant 352, 1935: W. J. Nungester, Northwestern University Medical School, $250, experimental lobar pneumonia. See grant 322, 1934. Nungester, W. J.; Jourdonais, L. F., and Wolf, A. A.: The Effect of Mucin on Infections by Bacteria, *J. Infect. Dis.* **59:** 11, 1936. Gunn, F. D., and Nungester, W. J.: Pathogenesis and Histopathology of Experimental Pneumonia in Rats, *Arch. Path.* **21:** 813, 1936.

Grant 354, 1935: Roy H. Turner, Tulane University School of Medicine, $450, physiology of peripheral vessels. Turner, R. H.; Sodeman, W. A., and Burch, G. E.: Volumetric Studies of the Circulation in a Sharply Defined Portion of the Human Finger Tip, *J. Clin. Investigation* **15:** 461, 1936. Turner, R. H.: Studies in the Physiology of Blood Vessels in Man, Apparatus and Methods: I. A Sensitive Plethysmograph for a Portion of the Finger, to be submitted for publication in *J. Clin. Investigation*. Sodeman, W. A.: Studies in the Physiology of Blood Vessels in Man, Apparatus and Methods: II. A Method for the Determination of the Volume of the Soft Tissue about the Terminal Phalanx of the Human Finger, to be submitted for publication in *J. Clin. Investigation*. Sodeman, W. A., Burch, G. E., and Turner, R. H.: Studies in the Physiology of Blood Vessels in Man: III. The Effect of Position of the Arm upon the Circulation of the Human Finger Tip in Health and in Certain Vascular Diseases, to be submitted for publication in *J. Clin. Investigation*.

Grant 358, 1935: John Field, Stanford University, $200, nitrated phenols and related compounds. Field, John, and Martin, A. W.: Action du dinitrophénol 1.2.4. sur les levures lavées, *Compt. rend. Soc. de biol.* **119:** 458, 1935. Field, John, 2d, and Martin, A. W.: Effect of Repeated Washing on Stimulation of Yeast Respiration by 2-4 Dinitrophenol, *Proc. Soc. Exper. Biol. & Med.* **32:** 1285, 1935. Field, John, 2d: Effect of 4-6 Dinitro-o-Cresol on Yeast Respiration, *ibid.*, p. 1342. Field, John, 2d, and Tainter, E. G.: Some Evidence that 2-4 Dinitrophenol and 4-6 Dinitro-o-Cresol have a Common Site of Action on the Yeast Cell, *Arch. internat. de pharmacodyn. et de thérap.* **54:** 84, 1936. See grant 400, 1936.

Grant 364, 1935: Dean A. Collins, University of Minnesota Medical School, $200, hypertension following ligation of renal arteries in dogs. Collins, D. A.: The Phenolsulfonphthalein Renal Function Test in Dogs, *Am. J. Physiol.* **115:** 27, 1936. Collins, D. A.: Hypertension from Constriction of the Arteries of Denervated Kidneys, *ibid.* **116:** 616, 1936.

Grant 371, 1935: A. Barnett, New York University, $300, measurement of impedance angle in thyrotoxicosis. Barnett, A., and Bagno, S.: The Physiological Mechanisms Involved in the Clinical Measure of Phase Angle, *Am. J. Physiol.* **114:** 366, 1936. Barnett, A., and Byron, C. S.: A Comparative Study of Impedance Angle and B. M. R. in 325 Consecutive Cases, *West. J. Surg.* **44:** 387, 1936.

Grant 373, 1935: Frank W. Allen, University of California, $100, correlation of neucleotide content with glycolytic power of red blood cell in pernicious anemia. Allen, F. W.; Lucia, S. P., and Eiler, J. J.: Nucleotide Nitrogen Content of Human White Blood Cells, *Proc. Soc. Exper. Biol. & Med.* **34:** 609, 1936. See grant 418, 1936.

Grant 374, 1935: Charles B. Huggins, University of Chicago, $400, relation of temperature to hematopoiesis. Huggins, C. B.; Blocksom, B. H., Jr., and Noonan, W. J.: Temperature Conditions in the Bone Marrow of Rabbit, Pigeon and Albino Rat, *Am. J. Physiol.* **115:** 395, 1936. Huggins, C. B., and Blocksom, B. H., Jr.: Changes in Outlying Bone Marrow Accompanying a Local Increase of Temperature Within Physiological Limits, *J. Exper. Med.* **64:** 253, 1936. Huggins, C. B., and Noonan, W. J.: An Increase in Reticulo-Endothelial Cells in Outlying Bone Marrow Consequent upon a Local Increase in Temperature, *ibid.*, p. 275. This work was awarded the gold medal, class 1, Scientific Exhibit, at the Kansas City session of the American Medical Association, 1936. See grant 394, 1936.

Grant 375, 1935: Heinrich Necheles, Michael Reese Hospital, Chicago, $100, action of pitressin on gastro-intestinal motility. Necheles, Heinrich; Maskin, M.; Strauss, S.; Strauss, A. A., and Taft, E.: Effect of Posterior Pituitary Extracts on Motility of the Gastro-Intestinal Tract, *Arch. Surg.* **33:** 780, 1936.

Grant 383, 1935: Harry Sobotka, Mount Sinai Hospital, New York, $300, enzymatic destruction of blood group carbohydrate (refund, $75.10). Sobotka, Harry; Witebsky, E.; Neter, E., and Schwarz, E. S.: Relation of Blood Group Specific Substance A to the Type Specific Carbohydrate of Pneumococcus Type I, *J. Infect. Dis.*, to be published.

Grant 391, 1935: Jessie L. King, Goucher College, $50, effect of cortical extract on rats. See grant 276, 1933.

Grant 392, 1935: Edward H. Schwab, University of Texas School of Medicine, $150, mechanism of cardiac hypertrophy. See grant 349, 1935.

Grant 394, 1936: Charles Huggins, University of Chicago, $300, bone marrow. See grant 374, 1935.

Grant 395, 1936: Israel S. Kleiner, New York Homeopathic Medical College, $350, formation of cevitamic (ascorbic) acid (refund, $2.20). Kleiner, I. S., and Tauber, H.: Vitamin C Studies: The Requirement of Mice, the Effect of Large Quantities, and the Question of Its Formation Biologically, *Food Research* **1:** 399, 1936.

2. Incomplete

A. Work under the grant completed, account rendered of expenses but results not published fully:

Grant 174, 1930: Alfred R. Ross, College of Medical Evangelists, Loma Linda, Calif., $1,455, hay fever pollens in the Southwest.

Grant 179, 1930: George T. Pack, Memorial Hospital, New York, $300, certain clinicopathologic problems of melanoma. See grant 231, 1932. Adair, F. E.: Treatment of Melanoma, *Surg., Gynec. & Obst.* **62:** 406, 1936.

Grant 231, 1932: George T. Pack, Memorial Hospital, New York, $500, complete analysis of 300 cases of melanoma. See grant 179, 1930.

Grant 297, 1933: Erma A. Smith, Iowa State College, $150, effect on the rat of sublethal amounts of illuminating gas. Smith, Erma; McMillan, E., and Mack, Lillian: Factors Influencing the Lethal Action of Illuminating Gas, *J. Indust. Hyg.* **17:** 18, 1935. Williams, I. R., and Smith, Erma: Blood Picture, Reproduction, and General Condition During Daily Exposure to Illuminating Gas, *Am. J. Physiol.* **110:** 611, 1935.

Grant 308, 1933: John L. Ulrich, Johns Hopkins University, $250, the reflex system in the cat. See grant 372, 1935.

Grant 317, 1934: M. D. Overholser, University of Missouri, $300, experimental growths in genital tract of monkeys and relation of anterior hypophysis to diabetes. Nelson, W. O., and Overholser, Milton D.: Effect of Oestrin Injections upon Experimental Pancreatic Diabetes in the Monkey, *Proc. Soc. Exper. Biol. & Med.* **32:** 150, 1934. Overholser, M. D., and Nelson, W. O.: Migration of Nuclei in Uterine Epithelium of Monkey Following Prolonged Estrin Injections, *Proc. Soc. Exper. Biol. & Med.* **34:** 839, 1936. Nelson, W. O., and Overholser, M. D.: The Effect of Estrogenic Hormone on Experimental Pancreatic Diabetes in the Monkey, *Endocrinology* **20:** 473, 1936.

Grant 353, 1935: Frank R. Menne, University of Oregon Medical School, $500, metabolism of cholesterol in rabbits (refund, $10.78).

Grant 360, 1935: A. M. Wright, J. J. Mulholland and F. W. CoTui, New York University, $300, physiology of sympathectomized dogs (refund, $1.30).

Grant 361, 1935: P. L. Heitmeyer, University of Oregon Medical School, $100, experimental uterine ovarian implants.

Grant 362, 1935: Lloyd H. Ziegler and Arthur Knudson, Albany Medical College, $100, activity after recovery from rickets.

Grant 363, 1935: Rachel E. Hoffstadt, University of Washington, $100, protein and carbohydrate fractions of Staphylococcus aureus.

Grant 369, 1935: Harold Jeghers, Boston University School of Medicine, $150, vitamin A deficiency in certain diseases.

Grant 372, 1935: John L. Ulrich, Johns Hopkins University, $450, cerebral functions in the action of antagonistic muscles. See grant 308, 1933.

B. Active Work Still in Progress

Grant 254, 1932: J. Lisle Williams, McCormick Institute, Chicago, $200, decreased dextrose tolerance in acute infectious diseases.

Grant 277, 1933: Gustav Zechel, University of Illinois College of Medicine, $260, study of growing malignant cells by moving photomicrographs. Zechel, Gustav, and Morgenster, O.: A Timing Device for Talking Motion Pictures, *Science* **81:** 23, 1935.

Grant 286, 1933: F. H. Pike, Columbia University, $600, the effects of successive experimental lesions of the nervous system.

Grant 309, 1933: Carroll L. Birch, University of Illinois School of Medicine, $300, assay of urine for sex hormone of the anterior pituitary.

Grant 310, 1934: Lay Martin, Johns Hopkins University, $150, study of gastric juice.

Grant 324, 1934: William deB. MacNider, University of North Carolina, $285, study of artificial circulation in the kidney.

Grant 337, 1934: James L. O'Leary, Washington University, $245, Loven reflexes.

Grant 340, 1934: Louis S. Goodman and Arthur J. Geiger, Yale University, $200, further study of antianemic principle. See grants 333, 1934, and 382, 1935.

Grant 343, 1934: John Guttman, Post-Graduate Medical School and Hospital, $400, relation between electrical disturbances in cochlea and the sensation of hearing.

Grant 338, 1934: W. W. Brandes, Baylor University, $150, the effect of acidosis on antibodies and resistance to infection.

Grant 344, 1934: Paul L. Day and W. C. Langston, University of Arkansas School of Medicine, $300, effect of withdrawal of vitamin G from diet of monkeys.

Grant 345, 1934: Emile Holman, Stanford University School of Medicine, $400, study by Frederick Fender of prolonged stimulation of the nervous system. See grant 377, 1935.

Grant 346, 1934: William Antopol, Mount Sinai Hospital, New York, $250, relationship of acetylcholine to carbohydrate metabolism. Tuchman, L.; Schifrin, A., and Antopol, W.: Blood Amylase Response to Acetyl-Beta-Methylcholine Chloride in Pancreatectomized Dogs, *Proc. Soc. Exper. Biol. & Med.* **33:** 142, 1935. Schifrin, A.; Tuchman, L., and Antopol, W.: Blood Amylase Response to Acetyl-Beta-Methylcholine Chloride in Rabbits, *Proc. Soc. Exper. Biol. & Med.* **34:** 539, 1936.

Grant 348, 1935: Phillips Thygeson, State University of Iowa, $400, trachoma and "inclusion virus" disease of the genito-urinary tract Thygeson, Phillips, and Mengert, W. F.: The Virus of Inclusion Conjunctivitis, *Arch. Ophth.* **15:** 377, 1936.

Grant 350, 1935: Frederic A. Gibbs, Harvard University School of Medicine, $100, fiber system in the cat's brain concerned in convulsions.

Grant 355, 1935: Royall M. Calder, San Antonio, Texas, $150, mechanism of pneumococcus inflammation.

Grant 356, 1935: Jay C. Davis, University of Minnesota, $500, coronary flow and lesions of the aortic valves.

Grant 365, 1935: Ludwig A. Emge, Stanford University School of Medicine, $500, effect of castration on malignant tumors. See grant 341, 1934.

Grant 366, 1935: G. E. Burget, University of Oregon Medical School, $500, physiology of cardiac portion of stomach. Burget, G. E., and Zeller, W. E.: A Study of the Cardia in Unanesthetized Dogs, *Proc. Soc. Exper. Biol. & Med.* **34:** 433, 1936.

Grant 367, 1935: Robert Gault and A. C. Ivy, American Institute for the Deaf-Blind, Evanston, Ill., $600, mechanical stimulation of the vibrotactile organs. See grant 412, 1936.

Grant 368, 1935: Felix Saunders, University of Chicago, $250, growth factors for bacteria. See grant 399, 1936.

Grant 370, 1935: Richard L. Crouch, University of Missouri, $500, connections of diencephalon.

Grant 377, 1935: Frederick A. Fender, Stanford University School of Medicine, $600, prolonged stimulation of parts of the nervous system. See grant 345, 1934.

Grant 378, 1935: Wallace M. Yater, Georgetown University Hospital, Washington, D. C., histopathologic basis of "bundle branch" block.

Grant 379, 1935: Victor C. Myers (Donald E. Bowman), Western Reserve Medical School, $650, chemical test for pregnancy.

Grant 380, 1935: N. W. Popoff, Highland Hospital, Rochester, N. Y., $600, arteriovenous anastomosis.

Grant 381, 1935: John R. Murlin, University of Rochester Medical School, $600, testis hormone. See grant 414, 1936. Kochakian, C. D., and Murlin, J. R.: The Relationship of the Synthetic Male Hormone, Androstendion, to the Protein and Energy Metabolism of Castrate Dogs, and the Protein Metabolism of a Normal Dog, Am. J. Physiol. **117:** 642, 1936.

Grant 382, 1935: L. Goodman, A. J. Geiger and L. Claiborn, Yale University, $250, antianemic principle. See grants 333 and 340, 1934.

Grant 385, 1935: Erwin Brand and G. F. Cahill, New York State Psychiatric Institute and Hospital, $200, cystinuria.

Grant 386, 1935: E. V. McCollum, Johns Hopkins University, $150, adaptation of the eyes to subdued light and its relation to vitamin A (refund, $19.65).

Grant 387, 1935: George D. Snell, Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, $500, hereditary changes in germ cells from x-rays (refund, $20).

Grant 388, 1935: Tracy J. Putnam, Boston City Hospital, Boston, $150, effect of low voltage current on nervous system.

Grant 389, 1935: Tracy J. Putnam, Boston City Hospital, Boston, $150, mechanism of cortical atrophy in dementia paralytica.

Grant 390, 1935: Abraham White, Yale University, $100, chemistry and metabolism of the sulfur of proteins (refund, $8.25). See grant 429, 1936. White, A., and Fishman, J. B.: The Formation of Taurine by the Decarboxylation of Cysteic Acid, J. Biol. Chem. **116:** 457, 1936. field, Ill., $100, available dextrose in certain common foodstuffs.

3. DISCONTINUED (NO RESULTS PUBLISHED)

Grant 287, 1933: Thomas D. Masters, Springfield Hospital, Springfield, Ill., $100, available dextrose in certain common foodstuffs.

Grant 336, 1934: Charles H. Frazier, Hospital of University of Pennsylvania, $751, autonomic representation of the urinary bladder in the cerebral cortex and in hypothalamus (refund, $476.94).

Grant 376, 1935: Herbert F. Thurston, University of Indiana School of Medicine, $300, roentgen ray in treatment of gas gangrene (refund, $300).

Grant 384, 1935: J. Louis Weller, George Washington University, $108, action of certain substances on hematopoietic tissue of the chick (refund, $108).

Report of Committee on Therapeutic Research

The Committee on Therapeutic Research, a standing committee of the Council on Pharmacy and Chemistry, encourages scientific investigations in the field of therapeutics by providing funds for the prosecution of necessary research.

During the year 1936 the Committee issued twenty-seven new grants. A detailed list of these grants, together with a list of publications during 1936, and of unexpired grants made before Jan. 1, 1936, will be found in the appendix to this report.

The following is a list of the investigations conducted with the assistance of grants made by the Committee on Therapeutic Research, reports of which were published during 1936:

1. Rat Test for Drug Addiction, Eugene J. Stanton: *Proceedings of the Society for Experimental Biology and Medicine*, April 1936, p. 340.

2. A Modified Pigeon Method for the Bioassay of Anti-Pernicious Anemia Liver Extracts, G. E. Wakerlin, H. D. Bruner and J. M. Kinsman: *Journal of Pharmacology and Experimental Therapeutics* **58:** 1 (Sept.) 1936.

3. Presence in Normal Human Urine of a Reticulocyte-Stimulating Principle for the Pigeon, G. E. Wakerlin and H. D. Bruner: *Archives of Internal Medicine* **57:** 1032 (May) 1936.

4. The Relation of the Reticulocytogenic Urine Principle to the Anti-Pernicious Anemia Liver Principle, G. E. Wakerlin: *Proceedings of the Central Society for Clinical Research*, November 1936, p. 46.

5. A Partially Purified Liver Extract Therapeutically Effective in Pernicious Anemia, Y. Subbarow, Bernard M. Jacobson and Cyrus H. Fiske: *New England Journal of Medicine* **214:** 194 (Jan. 30) 1936.

6. Chemical Studies of the Pernicious Anemia Principle in Liver, Bernard M. Jacobson and Y. Subbarow: *Journal of Biological Chemistry* **114:** 102 (May) 1936.

7. A Note on the Guinea-Pig Method of Assay of Liver Extract, Bernard M. Jacobson: *British Journal of Experimental Pathology* **17:** 307 (Aug.) 1936.

8. Studies of the Pernicious Anemia Principle in Liver: III. The Isolation and Properties of a Substance with Primary Therapeutic Activity, Y. Subbarow, Bernard M. Jacobson and Vilma Prochownick: *Journal of the American Chemical Society* **58:** 2234 (Nov.) 1936.

9. The Biological Assay of Estrogenic Substances in the Human by the Use of Vaginal Smears, Henry B. Richardson, Ephraim Shorr and George N. Papanicolaou: *Transactions of the Association of American Physicians* **51:** 213, 1936.

10. The Action of Ovarian Follicular Hormone in the Menopause, as Indicated by Vaginal Smears, George N. Papanicolaou and Ephraim Shorr: *American Journal of Obstetrics and Gynecology* **31:** 806 (May) 1936.

11. Vaginal Smears During Spontaneous Symptomatic Relief in the Menopause, Ephraim Shorr and George N. Papanicolaou: *Journal of Clinical Investigation* **15:** 454 (July) 1936.

12. Chemical Studies of Acute Poisoning from Mercury Bichloride, Torald Sollmann and Nora E. Schreiber: *Archives of Internal Medicine* **57:** 46 (Jan.) 1936.

13. Further Studies Dealing with the Sublingual Absorption of Drugs, Robert P. Walton: *Journal of Pharmacology and Experimental Therapeutics* **57:** 148 (June) 1936.

14. The Ineffectiveness of Drugs upon Collateral Flow After Experimental Coronary Occlusion in Dogs, Carl J. Wiggers and Harold D. Green: *American Heart Journal* **11:** 527 (May) 1936.

15. The Influence of Cortico-Adrenal Extract on the Course of Bacterial Intoxications in Guinea-Pigs, Richard W. Whitehead and Charles A. Fox: *Endocrinology* **20:** 93 (Jan.) 1936.

16. Relation of the Adrenal Glands to Immunological Processes, Charles A. Fox and R. W. Whitehead: *Journal of Immunology* **30:** 51 (Jan.) 1936.

17. The Production of a Deficiency Involving Cystine and Methionine by the Administration of Cholic Acid, Abraham White: *Journal of Biological Chemistry* **112:** 503 (Jan.) 1936.

18. The Availability of *dl*-Amino-*N*-Methylhistidine for Growth, Jacob B. Fishman and Abraham White: *Journal of Biological Chemistry* **113:** 175 (Feb.) 1936.

19. Sugar Alcohols: V. Chemical Constitution and Sweet Taste, C. Jelleff Carr, Frances F. Beck and John C. Krantz Jr.: *Journal of the American Chemical Society* **58:** 1394 (Aug.) 1936.

20. Acute Toxicity of Certain Sugar Alcohols and Their Anhydrides, Frances F. Beck, C. Jelleff Carr and John C. Krantz Jr.: *Proceedings of the Society for Experimental Biology and Medicine* **35:** 98 (Oct.) 1936.

21. Diseases of the Nails, Cleveland White: *Urologic and Cutaneous Review* **40:** 562 (Aug.) 1936.

22. Relative Actions of Dihydromorphinone Hydrochloride and Morphine Sulfate on the Excised Ureter and Bell's Muscle, Charles M. Gruber: *Proceedings of the Society for Experimental Biology and Medicine* **33:** 532 (Jan.) 1936.

23. The Effect of Methyl-Amino Methyl Heptene (Octin) upon the Intact Intestine in the Nonanesthetized Dog, Charles M. Gruber: *Journal of Pharmacology and Experimental Therapeutics* **56:** 284 (March) 1936.

24. The Action of Epinephrine, Tyramine and Ephedrine on the Small Intestine of the Unanesthetized Dog, Before and Following the Administration of Cocaine, Charles M. Gruber: *Journal of Pharmacology and Experimental Therapeutics* **57:** 347 (Aug.) 1936.

25. Experimental Radium Poisoning: I. Bone Marrow and Lymph Node Changes in Rabbits, Produced by Oral Administration of Radium Sulfate, Maurice Rosenthal and Edwin J. Grace: *American Journal of the Medical Sciences* **191:** 607 (May) 1936.

26. Further Studies in Experimental Granulopenia, with Particular Reference to Sulfhydryl (Glutathione) Metabolism in Blood Dyscrasias, Francis P. Parker and Roy R. Kracke: *American Journal of Clinical Pathology* **6:** 41 (Jan.) 1936.

27. Dilation of the Coronary Vessels by Certain Organic Extracts and Drugs, Charles W. Greene: *Journal of Pharmacology and Experimental Therapeutics* **57:** 98 (May) 1936.

28. An Analysis of the Relations of the Coronary Constrictor and Dilator Nerves in the Cervical Vagosympathetic of the Dog, Charles W. Greene: *American Heart Journal* **11:** 592 (May) 1936.

29. The Nervous Control of the Coronary Circulation and Its Clinical Significance, Charles W. Greene: *Southern Medical Journal* **29:** 478 (May) 1936.

30. Chemotropism of Leukocytes in Relation to Their Rate of Locomotion, Harold M. Dixon and Morton McCutcheon: *Proceedings of the Society for Experimental Biology and Medicine* **34:** 173 (March) 1936.

31. Chemotropic Reactions of Polymorphonuclear Leukocytes to Various Micro-Organisms, Morton McCutcheon and Harold M. Dixon: *Archives of Pathology* **21:** 749 (June) 1936.

32. Researches on Pyrimidines: CLIV. Pyrimidine Side Chain Reactions Useful for the Synthesis of 1, 3-Diazines Related Structurally to Vitamin B_1, Anne Litzinger and Treat B. Johnson: *Journal of the American Chemical Society* **58:** 1936 (Oct.) 1936.

33. Researches on Pyrimidines: CLV. The Synthesis of Thyminylamine and Its Conversion into Uracil, Treat B. Johnson and Anne Litzinger: *Journal of the American Chemical Society* **58:** 1940 (Oct.) 1936.

34. Experimental Therapy in Coccidioidal Granuloma, Harold C. Sox and Ernest C. Dickson: THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION **106**: 777 (March 7) 1936.

35. The Relation of Leucine, Isoleucine, and Norleucine to Growth, Madelyn Womack and William C. Rose: *Journal of Biological Chemistry* **116**: 381 (Nov.) 1936.

36. Effect of Carotene and Vitamin A on Patients with Diabetes Mellitus: III. The Effect of the Daily Administration of Carotene on the Blood Carotene of Normal and Diabetic Individuals, Elaine P. Ralli, Arthur C. Pariente, Harold Brandaleone and Sidney Davidson: THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION **106**: 1975 (June 6) 1936.

37. A Summary of Studies on the Effect of Ferric Chloride on Tuberculous Rabbits, Valy Menkin: *Proceedings of the Society for Experimental Biology and Medicine* **34**: 262 (March) 1936.

38. Significance of Carbohydrate Metabolism and Local Acidosis in Inflammation, Valy Menkin and Charlotte R. Warner: *Proceedings of the Society for Experimental Biology and Medicine* **34**: 594 (June) 1936.

39. Experimental Siderosis: III. Spectroscopic Studies of Iron-Containing Pigment, Egon Lorenz and Valy Menkin: *Archives of Pathology* **22**: 82 (July) 1936.

40. Studies on Inflammation: XII. Mechanism of Increased Capillary Permeability—A Critique of the Histamine Hypothesis, Valy Menkin: *Journal of Experimental Medicine* **64**: 485 (Sept. 1) 1936.

41. Paralyzing Effects of Sodium Citrate on the Cardiac Vagus and on Heart Muscle of the Cat, George D. Shafer and Jefferson M. Crismon: *Journal of Pharmacology and Experimental Therapeutics* **58**: 274 (Nov.) 1936.

42. The Alimentary Fate of Hemin in Man, Franklin C. Bing, Franklin A. Benes and Donald G. Remp: Proceedings of the American Society of Biological Chemists, *Journal of Biological Chemistry*, May 1936.

43. A Study of Blood Constituents in Pollinosis With and Without Treatment, M. L. Hathaway, B. Z. Rappaport, C. I. Reed and H. C. Struck: *Journal of Allergy* **8**: 1 (Nov.) 1936.

44. Total Plasmapheresis, John B. Stanbury, Edna Warweg and William R. Amberson: *American Journal of Physiology* **117**: 230 (Oct.) 1936.

During 1936 the following grants were made:

Grant 279: Norman A. David, assistant professor of pharmacology, University of Cincinnati College of Medicine, $65, to investigate the effects of carbarsone and other pentavalent arsenicals on the optic nerve.

Grant 280: John P. Peters, professor of medicine, Yale University School of Medicine, $200, to investigate by means of intravenous pyelography the state of ureters and kidneys in a large series of patients after delivery and subsidence of acute signs of toxemia.

Grant 281: O. W. Barlow, formerly assistant professor of pharmacology, Western Reserve University School of Medicine, $125, to investigate circulatory effects of metrazol under conditions of anesthesia with ether as well as under the influence of hypnotics.

Grant 282: Arthur W. Grace, Department of Medicine, Cornell University Medical College, $250, to investigate the effect of x-ray and Frei vaccine therapy in artificially inoculated lymphogranuloma inguinale in guinea-pigs.

Grant 283: Louis N. Katz, physiologist and director of cardiovascular research, Nelson Morris Memorial Institute for Medical Research, Michael Reese Hospital, Chicago, $200, to investigate the action of drugs on coronary circulation.

Grant 284: Mary E. Collett, Flora Stone Mather College, Western Reserve University, $60, to investigate the effect of the female sex hormone on the hot flashes and the basal metabolism of ovariectomized women.

Grant 285: Morton McCutcheon, associate professor of pathology, University of Pennsylvania School of Medicine, $150, to investigate the chemotropism of leukocytes.

Grant 286: Valy Menkin, Department of Pathology, Harvard University Medical School, $200, to investigate inflammation and tuberculosis in relation to immunity.

Grant 287: M. L. Tainter, professor of pharmacology, Stanford University School of Medicine, $250, to investigate sympathomimetic amines.

Grant 288: Louis Goodman, Department of Pharmacology and Toxicology, Yale University School of Medicine, $150, to investigate the effects of histidine injections on gastric physiology.

Grant 289: Carl C. Pfeiffer, Department of Pharmacology, University of Chicago, $225, to investigate the possible amino acids present in the Trypanosoma lewisi antibody.

Grant 290: Edward J. Van Liere, acting dean and professor of physiology, West Virginia University School of Medicine, $150, to investigate the effect of ephedrine on absorption from the small intestine.

Grant 291: J. F. McClendon, professor of physiologic chemistry, University of Minnesota Medical School, $200, to investigate blood iodine in different types of goiter.

Grant 292: W. L. Bradford, associate professor of pediatrics, University of Rochester School of Medicine, $150, to investigate the value of immune blood in whooping cough.

Grant 293: F. C. Koch, chairman Department of Physiological Chemistry and Pharmacology, University of Chicago, $250, to investigate provitamin D and vitamin D.

Grant 294: Harald G. O. Holck, associate professor of pharmacology, University of Nebraska College of Medicine, $150, to investigate sex difference in white rats in tolerance to certain barbiturates.

Grant 295: Torald Sollmann, dean and professor of pharmacology and materia medica, Western Reserve University School of Medicine, and Albert Gilbert, Western Reserve University School of Medicine, $150, to investigate the microscopic reactions of the bronchioles to drugs and anaphylaxis.

Grant 296: M. M. Wintrobe, Johns Hopkins Hospital, $150, to investigate the blood picture of pernicious anemia.

Grant 297: Melvin Dresbach, Harvard University Medical School, $250, to investigate the emetic effect of some of the digitalis bodies.

Grant 298: Kenneth W. Thompson, Department of Physiology, Yale University School of Medicine, $200, to investigate the effects of the thyroid stimulating hormone pituitary; its relationship to other substances in the possible control of hyperthyroidism.

Grant 299: Everett Idris Evans, Department of Pharmacology, University of Chicago, $150, to investigate prolactin.

Grant 300: Victor E. Hall, associate professor of biology, Stanford University School of Medicine, $200, to investigate the mechanism of the inhibition of the metabolic stimulating action of dinitrophenol by exposure to low environmental temperatures.

Grant 301: Maurice Rosenthal, instructor in pathology, Long Island College of Medicine, $200, to investigate radium poisoning.

Grant 302: Mary E. Collett, Flora Stone Mather College, Western Reserve University, $200, to investigate the effect of the female sex hormone on the hot flashes and the basal metabolism of ovariectomized women.

Grant 303: Arnold De M. Welch, Department of Pharmacology, Washington University School of Medicine, $200, to investigate the action of choline and betaine in the metabolism of fat.

Grant 304: Howard B. Lewis, professor of biological chemistry, University of Michigan Medical School, $175, to investigate selenium salts.

Grant 305: Beverly Douglas, assistant dean and associate professor of surgery, Vanderbilt University School of Medicine, $250, to investigate the pneumatic (transparent rubber jacket) system of treating extensive wounds.

The following grants were issued before Jan. 1, 1936. In some cases the grant has expired and an unexpended balance remains; or the work is not yet completed; or not yet published.

Grant 102: C. W. Greene, professor of physiology and pharmacology, University of Missouri, $250, to investigate the distribution of nitrous oxide and oxygen in the blood during anesthesia.

Grant 119: Nicholas Kopeloff, research associate in bacteriology, New York State Psychiatric Institute and Hospital, $100, to investigate bacillus acidophilus milk for the prevention and treatment of summer diarrhea in babies.

Grant 152: C. W. Greene, professor of physiology and pharmacology, University of Missouri, $300, to investigate the reaction of the coronary system to drugs.

Grant 164: E. L. Jackson, associate professor of pharmacology, Emory University School of Medicine, $200, to investigate the antagonism between sodium barbital and insulin.

Grant 194: Sarah A. Riedman, College of Physicians and Surgeons, Columbia University, $200, to investigate the effect of a high fat or ketogenic diet on the susceptibility of animals to convulsions of experimental origin.

Grant 200: Walter Bauer, Massachusetts General Hospital, the Robert W. Lovett Memorial Foundation of the Harvard University Medical School, $250, to investigate the anatomy and physiology of normal joints, with special reference to rheumatoid arthritis.

Grant 201: George R. Cowgill, associate professor of physiologic chemistry, Sterling Hall of Medicine, Yale University, $250, to investigate vitamin B in relation to morphine addiction.

Grant 210: C. I. Reed, associate professor of physiology, University of Illinois College of Medicine, $200, to investigate the use of viosterol 10,000 X in seasonal hay fever.

Grant 214: E. A. Park, professor of pediatrics, and J. A. Pierce, Johns Hopkins University School of Medicine, $200, to investigate the reaction of cartilage.

Grant 219: Torald Sollmann, professor of pharmacology, and Harold N. Cole, associate professor of dermatology and syphilology, Western Reserve University School of Medicine, $100, to investigate the epidemic factor in mercurial salivation.

Grant 221: John G. Reinhold, Department of Public Health, Philadelphia General Hospital, $250, to investigate the action of aminoacetic acid (glycine) in progressive muscular dystrophy.

Grant 222: Eugene U. Still, assistant professor of physiology, University of Chicago, $250, to investigate the changes in the metabolism of the pancreas.

Grant 223: Clinton H. Thienes, professor of pharmacology, and Lawrence E. Detrick, Department of Pharmacology, University of Southern California School of Medicine, $200, to investigate withdrawal phenomena in morphine addicted animals.

Grant 228: Henry G. Barbour, associate professor of pharmacology and toxicology, Yale University School of Medicine, $250, to investigate metabolism and water exchange in morphine habituation.

Grant 232: George R. Cowgill, associate professor of physiologic chemistry, Yale University School of Medicine, $250, to investigate the heart in vitamin B deficiency.

Grant 236: Charles W. Greene, professor of physiology and pharmacology, University of Missouri School of Medicine, $100, to investigate the pharmacology of the so-called specific coronary dilator drugs.

Grant 238: Roy R. Kracke, professor of pathology, Emory University School of Medicine, $250, to investigate the effect of the oxidation products of aminopyrine and related drugs on the leukocyte counts of rabbits.

Grant 239: John R. Murlin, director and professor of physiology, University of Rochester School of Medicine, $100, to investigate the absorption of insulin from the alimentary tract.

Grant 247: Arthur W. Grace, Department of Medicine, Cornell University Medical College, $250, to investigate the use of antimonial compounds in the treatment of lymphogranuloma inguinale.

Grant 248: Fred C. Koch, chairman of the Department of Physiological Chemistry and Pharmacology, University of Chicago, $250, to investigate the male sex hormone.

Grant 249: J. Percy Baumberger, associate professor of physiology, Stanford University, Department of Physiology, $200, to investigate the occurrence and oxidation-reduction potential of pigments in tumor cells.

Grant 250: A. R. McIntyre, professor of pharmacology, University of Nebraska College of Medicine, $100, to investigate the effects of the digitaloid bodies on the metabolism of dextrose by the cardiac musculature.

Grant 251: Dr. Bernard Fantus, professor of therapeutics, University of Illinois College of Medicine, $100, to investigate the titration of the antitoxic value of serum of patients who have received tetanus antitoxin.

Grant 254: C. W. Edmunds, professor of materia medica and therapeutics, University of Michigan Medical School, $200, to investigate the action of the drugs in the digitalis group in animals injected with diphtheria toxin.

Grant 257: O. W. Barlow, formerly assistant professor of pharmacology, Western Reserve University School of Medicine, $150, to investigate analeptics versus barbiturates.

Grant 258: Claus W. Jungeblut, professor of bacteriology, Columbia University College of Physicians and Surgeons, $250, to investigate vitamin C versus diphtheria.

Grant 259: O. W. Barlow, formerly assistant professor of pharmacology, Western Reserve University School of Medicine, $100, to investigate the effects of parasympathetic drugs on the intestine.

Grant 261: Robert P. Walton, assistant professor of pharmacology, Tulane University of Louisiana School of Medicine, $100, to investigate the absorption of drugs through the oral mucosa.

Grant 262: Victor E. Hall, associate professor of physiology, Stanford University, $125, to investigate the mechanism of inhibition of the metabolic stimulating action of dinitrophenol by exposure to low environmental temperatures.

Grant 263: H. A. Shoemaker, associate professor of biochemistry and pharmacology, C. E. Clymer, professor of clinical surgery, and Henry H. Turner, University of Oklahoma School of Medicine, $150, to investigate the blood cholesterol and iodine values in thyroid disease and their alteration by treatment.

Grant 264: Detlev W. Bronk, Johnson professor of biophysics, University of Pennsylvania School of Medicine, $200, to investigate the action of various drugs on the autonomic centers.

Grant 266: F. C. Koch, chairman Department of Physiological Chemistry and Pharmacology, University of Chicago, $250, to investigate the antirachitic potency of irradiated sterols other than ergosterol.

Grant 268: Walter E. Hambourger, assistant professor of pharmacology, Western Reserve University School of Medicine, $250, to investigate the mechanism of morphine action, with special reference to the excitement in cats.

Grant 269: Francis G. Blake, Sterling professor of medicine, and Marion E. Howard, Sterling professor of medicine, Yale University School of Medicine, $50, to investigate the use of artificial pneumothorax in the treatment of lobar pneumonia.

Grant 270: Elaine P. Ralli, assistant professor of medicine, New York University College of Medicine, $250, to investigate the effect of carotene on the blood vitamin A.

Grant 272: Ephraim Shorr, assistant professor of medicine, Cornell University Medical College, $150, to investigate the value of various ovarian preparations.

Grant 273: Marston T. Bogert, professor of chemistry, Columbia University, $100, to investigate the chemistry and pharmacology of the quinazoline group.

Grant 275: Roberta Hafkesbring, associate professor of physiology, Woman's Medical College of Pennsylvania, $200, to investigate the effects of sodium barbital and other hypnotics.

Grant 276: Eugene Stanton, Department of Pharmacology, Western Reserve University School of Medicine, $150, to investigate the addiction, tolerance and abstinence to various narcotics in animals, especially rats.

Grant 277: Katharine Henderson, Department of Pharmacology, Western Reserve University School of Medicine, $300, to investigate the excretion of bismuth.

Grant 278: William H. Lewis Jr., assistant clinical professor of medicine, and Arthur C. de Graff, professor of therapeutics, New York University College of Medicine, $150, to investigate the function of the heart in relation to age.

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the Year Ending December 31, 1936

Reserve invested as at December 31, 1935	$2,090,414.69	
Bonds Purchased (Cost)	251,812.50	
	2,342,227.19	
Less Bonds Called	88,705.88	$2,253,521.31
Balance for Investment December 31, 1935	147,063.44	
Interest on Investments	80,969.60	
	228,033.04	
Less:		
Transfer to General Fund	$150,000.00	
Investments Purchased	71,162.29	221,162.29	6,870.75
Invested and Uninvested Reserve as at December 31, 1936		$2,260,392.06

DAVIS MEMORIAL FUND

Balance in Fund December 31, 1935	$6,909.16	
1936 Interest on Bank Balance	104.02	
Total Fund as at December 31, 1936, on Deposit		$ 7,013.18

HERMAN L. KRETSCHMER, Treasurer.

AUDITOR'S REPORT

January 23, 1937.

To the Board of Trustees,
American Medical Association, Chicago, Illinois.

Dear Sirs:

In accordance with your instructions, we have made an examination of the Balance Sheet of the American Medical Association, Chicago, Illinois, as at December 31, 1936, and of the Income Account for the year 1936. In connection therewith, we examined or tested accounting records of the Association and other supporting evidence and obtained information and explanations from officers and employees of the Association; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions. We now submit our report on the examination, together with related statements as enumerated in the index appended hereto.

In our opinion, based on such examination, the accompanying Balance Sheet and relative Income Account fairly present the position of the Association as at December 31, 1936, and the result of its operations for the year ended on that date, subject to the following qualifications and observations:

(1) The inventories of Materials, Supplies and Work in Progress in the amount of $84,223.59 are stated in accordance with affidavits sworn to by responsible officials of the Association and have not been confirmed by us in any way.

(2) In accordance with the established practice of the Association, no provision has been made for (a) accrued interest on bonds, (b) membership dues unpaid, (c) accrued salaries and wages, and (d) accrued property taxes for the year 1936.

(3) Subscriptions paid in advance represent an estimated amount based on cash received for subscriptions for the year 1937, received in the month of December 1936. This conforms with the method used in prior years.

(4) Advance payments on publications represent an estimated amount of prepaid subscriptions to Hygeia $125,789.24 plus $12,116.99 received in advance for January advertising and Directory sales and service.

(5) During the year the Association completed the remodeling of the main building and the addition of two floors; and at December 31, 1936, all of the buildings, including two storage buildings, the cost of which had been previously written off, were appraised by Holabird and Root, resulting in an increase in value of $124,481.59 over the book value at December 31, 1936, which was placed on the books at that date. In accordance with the previous practice of the Association depreciation has been computed at the rate of 2½% on the main building and on machinery and equipment at the rate of 5% on the diminishing book values prior to the appraisal.

We have received a letter from Messrs. Loesch, Scofield, Loesch and Burke, acting as Attorneys for the Association, stating that at December 31, 1936, there were two lawsuits pending against the Association, one filed by Dr. Jean Paul Fernel in the amount of $1,000,000.00 for alleged libel, and the other filed by Herbert Edwin Soule, Helen B. Ickler and Julius Ickler to enjoin the Association from performing certain

functions specified in the complaint. The attorneys stated in their letter that it was their opinion they would eventually defeat both suits. We have also received a certificate from an official of the Association stating that at December 31, 1936, there were no contingent liabilities except the lawsuits here referred to.

Fidelity insurance is carried against the undermentioned officers and employees of the Association in the amount here stated:

Dr. Olin West, General Manager	$10,000.00
Dr. Herman L. Kretschmer, Treasurer	10,000.00
E. A. Hoffman, Cashier	10,000.00
J. E. Hartigan, Assistant Cashier	2,000.00
Sundry Employees (eight, $1,000.00 each)	8,000.00
Total Fidelity Insurance	$40,000.00

We have pleasure in reporting that the books are well maintained and that every facility was afforded us for the proper conduct of the examination.

Yours truly, PEAT, MARWICK, MITCHELL & Co.

INDEX TO STATEMENTS

	Exhibit
Balance Sheet, as at December 31, 1936	"A"
Income Account, for the year ended December 31, 1936	"B"
	Schedule
Journal Operating Expenses, for the year ended December 31, 1936	"1"
Association and Miscellaneous Expenses, for the year ended December 31, 1936	"2"

EXHIBIT "A"

BALANCE SHEET AS AT DECEMBER 31, 1936

ASSETS:		
Property and Equipment, less depreciation:		
Real Estate at less than cost,* and Buildings at Reproduction Cost New less Depreciation, as Appraised by Holabird and Root at December 31, 1936		$1,187,773.98
Equipment (at Cost, less Depreciation):		
Machinery	$ 101,335.17	
Type and Metal	13,780.30	
Furniture and Equipment	85,733.72	
Chemical Laboratory	6,983.40	207,832.59
Total Property and Equipment		1,395,606.57
Investments (at cost):		
U. S. Government Securities	1,355,098.06	
Railroad, Municipal and Utility Bonds	898,423.25	2,253,521.31
Cash held by Treasurer for Investment		6,870.75
Cash in Banks and on Hand		253,038.78
Accounts Receivable:		
Advertising	48,777.56	
Co-operative Medical Advertising Bureau	10,966.26	
Reprints	3,188.61	
Miscellaneous	13,006.81	75,939.24
Inventories of Materials, Supplies and Work in Progress		84,223.59
Expenditures on Publications in Progress		41,707.16
Prepaid Expenses—Insurance, etc.		11,782.57
Total		$4,122,689.97

* Cost value of Real Estate was reduced $40,000.00 as of December 31, 1933, by official action of Board of Trustees. This action was reported to House of Delegates.

LIABILITIES:			
Accounts Payable:			
Building Addition and Remodeling		$	23,013.06
Co-operative Medical Advertising Bureau			11,037.53
Miscellaneous			404.54
			34,455.13
Subscriptions paid in Advance			163,036.42
Advance Payments on Publications			137,906.23
Net Worth:			
Association Reserve Fund		$ 350,000.00	
Building Reserve Fund		250,000.00	
Capital Account:			
Amount thereof as at December 31, 1935	$2,549,698.76		
Building Reserve Fund Reallocated	400,000.00		
Net Income for the year ended December 31, 1936	113,111.84	3,062,810.60	
Increased value of Building per appraisal		124,481.59	
Net Worth as at December 31, 1936			3,787,292.19
Total			$4,122,689.97

EXHIBIT "B"

INCOME ACCOUNT

FOR THE YEAR ENDED DECEMBER 31, 1936

JOURNAL:		
Gross Earnings:		
Fellowship Dues and Subscriptions		$ 638,243.18
Advertising		780,299.01
Jobbing		96,770.72
Reprints		2,416.19
Books		14,700.17
Insignia		7,084.23
Miscellaneous Sales		6,593.86
Interest		4.00
Recoveries on Bad Accounts and Gain from Sale of Equipment		1,106.87
Gross Earnings from Journal		1,547,218.23
Operating Expenses—Schedule "1"		909,417.95
Net Earnings from Journal		637,800.28
Miscellaneous Income:		
Rents	$ 1,200.00	
Sundry Publications	5,393.68	6,593.68
Association Income:		
Income from Investments	80,844.60	
Miscellaneous Income	8,284.58	89,129.18
Gross Income		733,523.14
Association Expenses—Schedule "2"	411,028.93	
Miscellaneous Expenses—Schedule "2"	209,382.37	620,411.30
Net Income		$ 113,111.84

SCHEDULE "1"

JOURNAL OPERATING EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1936

Wages and Salaries			$443,693.17
Editorials, News and Reporting			11,236.76
Paper—Journal Stock			205,158.16
Paper—Miscellaneous			3,764.21
Electrotype and Engravings			14,520.33
Binding			616.11
Ink			5,062.59
Postage—First Class			35,964.10
Postage—Second Class			56,158.98
Journal Commissions			14,408.65
Collection Commissions			647.58
Discounts			27,909.16
Express and Cartage			5,640.23
Exchange			3,006.09
Office Supplies			2,444.02
Telephone and Telegraph			4,017.25
Office Jobbing			12,693.10
Power and Light			10,177.95
Factory Supplies			11,182.37
Repairs and Renewals—Machinery			4,906.04
Miscellaneous Operating Expenses			25,640.10
Total Journal Operating Expenses before Provision for Depreciation			898,846.95
Depreciation on Equipment (Computed on diminishing balances):			
Machinery	% 5	$5,333.43	
Furniture and Equipment	% 5	4,082.18	
Factory Equipment	% 5	430.12	
Type	% 5	318.98	
Metal	% 5	406.29	10,571.00
Total Journal Operating Expenses			$909,417.95

SCHEDULE "2"

ASSOCIATION AND MISCELLANEOUS EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1936

Association Expenses:	
Association	$105,556.23
Health and Public Instruction	29,246.21
Pharmacy and Chemistry	44,376.55
Chemical Laboratory	25,778.47
Medical Education and Hospitals	76,761.56
Therapeutic Research	4,794.14
Legal Medicine and Legislation	36,279.90
Bureau of Investigation	17,457.05
Bureau of Medical Economics	28,772.60
Council on Foods	16,181.95
Physical Therapy	14,785.76
Bureau of Association Exhibits	10,670.96
Laboratory Depreciation (5% on diminishing balances)	367.55
Total Association Expenses	$411,028.93
Miscellaneous Expenses:	
Insurance and Taxes	$ 16,956.41
Legal and Investigation	26,589.86
Building Expenses	39,449.16
Building Depreciation (2.5% on diminishing balances)	14,657.35
Fuel	7,761.12
Sundry Publications	103,968.47
Total Miscellaneous Expenses	$209,382.37

REPORT OF THE JUDICIAL COUNCIL

To the Members of the House of Delegates of the American Medical Association:

During the past year the usual number of requests for advice on ethical questions, information on economic subjects and complaints concerning both have been handled by the Council with varying degrees of satisfaction to the inquirers. Economic subjects invariably involve ethical questions and it is apparent that in many instances, somewhere behind the correspondent's problem, is an effort, sometimes on his part and sometimes on the part of others, to evade the principles of conduct established for our guidance. These principles have proved broad and comprehensive enough to cover satisfactorily any situation that has arisen if the effort to follow the principles has honestly been made; but because this has not always been the case the Judicial Council deems it expedient to clarify by certain changes and additions, which will later be offered as amendments, some paragraphs in our printed Principles of Medical Ethics.

Article VI refers to "Compensation." Section 2 of that article is headed "Contract Practice." The first paragraph of the section reads as follows:

> It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.

To one seeking only high ideals in medical practice, this statement would be taken as covering all medical practice; but to one endeavoring to justify a practice not up to the standard of such an ideal, the interpretation may and has been made that because the section is captioned "Contract Practice" and has to do principally with that subject it has no application except as to contract practice.

In the same section, contract practice is defined as follows:

> By the term "contract practice" as applied to medicine is meant the carrying out of an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or a fixed rate per capita.

If it is contract practice to care for a group or class of individuals for a definite sum or a fixed rate per capita as a basis of payment for the group, it is equally contract practice if the payment is based on an agreed fee schedule.

In the same section, the next paragraph enumerates certain features or conditions which, if present, make a contract unethical, among which is "5. When free choice of a physician is prevented." The phrase "free choice of physician" is more and more frequently used and there is a general understanding of what the phrase means. Actually no person can have an absolutely free choice for many reasons, and if his freedom of choice is not absolute then it is not free but limited. Chapter II, section 3, of Principles of Medical Ethics states: "A physician is free to choose whom he will serve." Therefore the physician whom the patient chooses may decline to serve when he is chosen. Or the chosen physician may be unavailable for many reasons. As the Judicial Council has often to interpret this phrase, it seems proper to define the term as applied to contract practice and include the definition in the paragraph devoted to that subject. An amendment will be presented at the proper time for action by the House.

RULES OF COUNTY SOCIETIES

The Judicial Council notes a tendency which, while not widespread, appears to be growing, of county societies establishing certain "rules of conduct" to control membership and basing disciplinary measures on violation of such rules. These "rules of conduct" are usually in the form of specific laws forbidding certain defined actions. They are based on the principles enunciated in the Principles of Medical Ethics, which principles in all instances so far coming to the attention of the Council are sufficient in scope to cover the situations sought to be corrected. Such rules, usually drawn to meet a particular condition that has caused an inflamed sentiment against certain individuals or groups, are adopted hastily with little consideration of anything except to correct the situation immediately at hand. No rules of conduct adopted by county medical societies have as yet caused embarrassment to the Judicial Council in its endeavors to protect equitably membership in the American Medical Association. The question is likely to arise soon, however, as to whether a member of the American Medical Association may be deprived of membership for infraction of a rule of conduct not actually involving unethical conduct as presented in the Principles of Medical Ethics. The Judicial Council senses danger in the development of two ethical standards of possible injustice to the membership of this organization in the adoption of rules of conduct designed by county societies to supplement the principles of medical ethics established by the House of Delegates.

COOPERATION WITH COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

The 1936 House of Delegates instructed "The Council on Medication Education and Hospitals together with the Judicial Council to formulate a plan whereby all those associated in the delivery of medical service be included in the investigation of hospitals for classification and that approval be based in the future on ethical practices in the institution as well as its scientific work." Consequently the Judicial Council met with the Council on Medical Education and Hospitals in February this year and after thorough discussion presented the basis of a plan for the desired cooperation of the two councils. The problem, which involves many difficulties, will require some time for its solution.

VOTING RIGHTS

The Judicial Council desires to bring to the attention of the House of Delegates the practice of constituent associations whereby officers and council members become ex officio or active members of the house of delegates with the right to vote. The house of delegates is the legislative body of each association and in many the council is the executive body acting for the house of delegates between annual sessions. The state society council reports its interim activities to the state society house of delegates for approval at the annual session. It seems incongruous for members of the council to act during the year, report their activities to the house, and then seated as delegates vote in judgment on their own previous actions. State society officers and council members should sit with the house of delegates, but the Judicial Council questions the propriety of their recognition as voting members. Perhaps no great harm ordinarily is done, but if the council is numerically large in proportion to the number of elected delegates its members might dominate the house and interfere with action desired by the membership at large. The Judicial Council has reason to believe that such misrepresentation has occurred. In bringing such situations to the attention of the House of Delegates it is the hope of the Judicial Council that corrective action may be taken by constituent associations.

TIME LIMIT ON APPEALS

During the past year the Judicial Council has tried and rendered decisions in four cases appealed to it from decisions of state associations. Two appeals were sustained and two were denied. A fifth appeal was denied a hearing because of refusal on the part of the appellant to comply with the procedure provided in the county society by-laws. It is the experience of the Council that as a rule state society by-laws place no limit on the time within which appeals must be made from decisions of county societies. The By-Laws of this association set no limit. As a consequence, some appeals come to the Judicial Council as long as two or three years after the first decision is rendered, when the production of evidence has become very uncertain and often very difficult. The Council doubtless has power to make rules governing its own procedure but believes it to be proper and advisable to incorporate in the By-Laws a definite limit within which appeal to the Judicial Council from decisions of constituent associations must be made. An amendment will be offered providing for a six months limit.

AMENDMENTS

At the 1936 session, certain amendments to the By-Laws recommended to the House were approved by the proper reference committees but through an oversight were not formally

adopted by the House. These amendments will be presented for formal action during this session.

The Constitution and By-Laws are in confusion with respect to the election of the President-Elect. Article 6, section 1, names the general officers, including the President and President-Elect. Section 2 of the same article provides that these officers be elected annually. The fact is we do not elect a President but do elect a President-Elect, who becomes President one year later at the time of his installation. The By-Laws, chapter IV, section 8, providing for the installation of the President, also refer to "the annual session following that at which he was elected." The Constitution and By-Laws should be changed to conform to the practice which the House of Delegates has followed for more than ten years, and proposed amendments to effectuate such changes will be offered at the proper time. The amendment to the Constitution cannot be accomplished until the 1938 session but there appears to be no reason why the amendment to the By-Laws cannot be made at the present session, as it will only follow the procedure which has been customary in the past and has not heretofore been called into question.

GEORGE EDWARD FOLLANSBEE, Chairman.
LLOYD NOLAND.
JOHN H. O'SHEA.
EDWARD R. CUNNIFFE.
WALTER F. DONALDSON.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

1. The first phase of the survey of Medical Education in the United States and Canada, authorized by the Board of Trustees in February 1934, has been successfully completed. Eighty-nine institutions have filed reports and have been visited by the Council's representative in company with another member of the Council, the Association of American Medical Colleges or the Federation of State Medical Boards. Three medical schools and the Associated Colleges of Osteopathy declined to report or to permit an inspection by the Council.

In response to the urgent requests of many of the schools surveyed, the Council is preparing confidential reports in graphic form which will be presented to each school as soon as completed, probably by the time of the Atlantic City session. From these pattern maps, officers of an institution may learn where their school stands in relation to other schools with respect to about 100 items used as a basis for comparison.

The survey has revealed certain weaknesses in the organization and administration of a number of schools. Where unsatisfactory conditions have been found, a warning has been given that improvement must be made within a limited time if the Council's approval is to be continued. The stimulating effect of such counsel is already noticeable. Many of the schools, however, will need to be revisited within the next two years in order to learn just how much is being accomplished.

2. In the United States there are ten schools which offer only the first two years of the medical curriculum. For the most part these schools are located in smaller communities where clinical material is so scarce that satisfactory teaching of clinical medicine would be utterly impossible. In many instances, facilities do not exist for the satisfactory teaching of such subjects as physical diagnosis and gross pathology, which involve the use of clinical material. The same is true of the introductory courses in medicine and surgery, which commonly form a part of the second year schedule. Prolonged study of the problem thus presented has led to the adoption of the following policy:

SCHOOLS OF THE MEDICAL SCIENCES

Following the recent survey of the medical schools it was decided that, effective July 1, 1939, the Council will publish a list of schools which teach acceptably gross and microscopic anatomy, biochemistry, physiology, pharmacology, bacteriology and pathology, even though they do not offer a full course leading to a medical degree.

The acceptance of courses involving the use of clinical material shall be left to the discretion of the faculties which admit to advanced standing students transferring from approved schools of the medical sciences.

Surveys of the clinical courses and facilities will be made by the Council and reported to the individual medical schools on request.

3. There remain in this country five unapproved medical schools. One of these admitted no new students last fall and has declared its intention to close as soon as the students now enrolled can be graduated, presumably in 1939.

4. This year, again, the Annual Census of Hospitals met with a response from more than 96 per cent of all registered hospitals and this response represented around 99 per cent of the entire bed capacity. All other agencies, including the census and other departments of the federal government, have failed to get any better than a 70 per cent response. This loyalty on the part of hospitals to the American Medical Association places the Association in a unique position to do for hospitals things which other agencies are not in position to do.

On March 27, 1937, there were 6,189 hospitals, and of these 939 were approved for internships and residencies. These approved hospitals admitted more patients than all the remaining 5,250 hospitals; thus, more than half of all hospital patients are in institutions approved for the formal training of physicians. The remaining 5,250 hospitals are registered but not approved for intern and residency training. One thousand, six hundred and thirty-eight of these are approved as meeting the minimum standards of the American College of Surgeons and have been inspected by the college. This leaves 3,612 hospitals not approved by the College of Surgeons or the Council. No other agency has inspected them. It is safe to assume that little help is given them toward maintaining standards, outside of the publication and distribution of the "Essentials of a Registered Hospital" and the information gleaned at hospital conventions. The Council's staff, in addition to the 939 approved hospitals, some 200 schools for laboratory technicians, thirty-five schools for physical therapy technicians and the schools for occupational therapists, has managed in the last two or three years to see 600 of these smaller hospitals. Even so, there remain over 3,000 hospitals in "no man's land" so far as inspection and regulation by some national authority is concerned.

As a result of the recent census of hospitals, the Council was able to publish in the Hospital Number of THE JOURNAL the approximate extent of overcrowding in the state mental hospitals. Figures covering 247 of these institutions show that only ninety-three were reported free from overcrowding. The excess of the average number of patients over the rated capacity was less than 15 per cent in sixty-one of these hospitals, from 15 to 30 per cent in forty-six, from 30 to 50 per cent in twenty-four and over 50 per cent in four. In states where more adequate facilities have been provided, a higher discharge rate and a larger number of paroles have resulted.

On the other hand, general hospitals are shown to have been overbuilt. Not only is the average occupancy low, but in some general institutions there are whole buildings, parts of buildings, or floors that have never been utilized. This condition suggests that it would be wise for physicians to investigate carefully before lending their support to campaigns for additional hospital facilities.

5. The Council has also received invaluable assistance from the officials of county and state medical societies in the investigation of hospitals beyond the reach of our inspections. The Council is seeking to make still more helpful this cooperation with constituent societies. The Council has found it of mutual advantage to work with certain departments of the federal government, particularly the United States Public Health Service, the Bureau of the Census, the Department of the Interior, and the Children's Bureau. Such activities extend the usefulness of the Council and gains for the Association some measure of friendly interest and appreciation.

The services of 10,000 interns and residents were examined and prepared for recording in the biographic file.

Around 450 cases of apparent broken internship and residentship contracts were investigated.

Due to the activities of the Council, the percentage of autopsies performed in hospitals approved for intern training has steadily increased. In 1926, 249 hospitals reported more than 15 per cent autopsies; 329 less than 15 per cent. Correspond-

ing figures for 1935 were: 692 hospitals reported more than 15 per cent autopsies; eleven less than 15. The number reporting better than 30 per cent during the same period increased from 103 to 355.

6. In cooperation with the Judicial Council, efforts are being made to secure information concerning the tendency of some hospitals to engage in the practice of medicine through the device of hiring physicians to care for patients while the hospital itself collects the fee for the services rendered.

7. At the Milwaukee session the Council was authorized to approve such special examining boards as conform to the standards formulated by the Council. The following boards have been so approved:

American Board of Dermatology and Syphilology.
American Board of Internal Medicine.
American Board of Obstetrics and Gynecology.
American Board of Orthopaedic Surgery.
American Board of Pediatrics.
American Board of Psychiatry and Neurology.
American Board of Radiology.
American Board of Urology.

8. The annual review of medical education was published in THE JOURNAL, Aug. 29, 1936.

The list of "Approved Colleges of Arts and Sciences and Junior Colleges" was revised and reprinted in January 1937.

The Pathology Number of THE JOURNAL, Oct. 24, 1936, contained along with other material a list of approved pathologists.

The Hospital Number of THE JOURNAL, March 27, 1937, contained an unusually complete summary of existing conditions in hospitals throughout the United States.

The State Board Number of THE JOURNAL, April 24, 1937, contained information concerning the number of physicians licensed after examination and by endorsement, the number who represent actual additions to the profession, the number of unapproved graduates and foreigners licensed with or without examination, and the latest information concerning state medical licensure and endorsement, and the examinations of the National Board of Medical Examiners and the basic science boards.

At the Annual Congress on Medical Education and Licensure, Feb. 15 and 16, 1937, Dr. Ray Lyman Wilbur, in his chairman's address, cogently presented the fundamental reasons for the position of leadership assumed by the American Medical Association in the field of medical education. At the same time Dr. Herman G. Weiskotten, who has been engaged in the survey of medical schools, gave a most instructive summary of his impressions.

9. Because of the establishment of examining boards in radiology and pathology, the Council will discontinue the maintenance and publication of its lists of physicians specializing in these branches.

10. The Council is now planning a study of graduate medical education in the United States. This will include the systematic courses offered in schools, hospital residencies and other types of apprenticeship, continuation courses for those in practice and the educational programs of medical societies. To carry out this program and at the same time discharge existing responsibilities will require an increase in the Council's staff, provision for which has already been made by the Board of Trustees.

11. The Council is contributing a certain amount of material for the anesthesia exhibit which is being prepared under the direction of the Committee on Scientific Exhibit.

Respectfully submitted.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS.
RAY LYMAN WILBUR, Chairman.
CHARLES E. HUMISTON.
FREDERIC A. WASHBURN.
J. H. MUSSER.
FRED MOORE.
REGINALD FITZ.
FRED W. RANKIN.
WILLIAM D. CUTTER, Secretary.

REPORT OF THE COUNCIL ON SCIENTIFIC ASSEMBLY

To the Members of the House of Delegates of the American Medical Association:

The Council on Scientific Assembly held its usual official meetings during the year and has given consideration to such matters as have been brought to its attention.

The regular annual Conference of Section Secretaries with the Council was held in Chicago Dec. 4, 1936, for the purpose of planning the scientific program for the Atlantic City session.

The General Scientific Meetings, held on Monday and Tuesday of the week of each annual session for several years past, have attracted greater interest each year, and there has been a general increase in attendance. The program of the General Scientific Meetings will be somewhat different this year in that the session on Tuesday morning will be divided into two sections, one dealing with subjects in the field of general medicine and the other with surgical subjects. In cooperation with the secretary of the Section on Dermatology and Syphilology and of the Section on Preventive and Industrial Medicine and Public Health, the Council has arranged for a symposium on syphilis to be presented as a part of the program of the General Scientific Meetings on the afternoon of Tuesday, June 8.

At the Kansas City session in 1936 the Reference Committee on Sections and Section Work offered a recommendation to the House of Delegates that the By-Laws be so amended as to preclude the participation of an individual Fellow in the discussion of more than one paper at any Scientific Assembly.

Section 13 of chapter XIV of the By-Laws now reads as follows: "A Fellow shall present no more than one paper at any Scientific Assembly." The Council on Scientific Assembly is of the opinion that this provision of the By-Laws is wise if it is made to apply specifically to the actual presentation of papers before the scientific sections but feels that this by-law should not be made to apply to the programs of the General Scientific Meetings, and that it should not debar an individual Fellow from participation in the discussions of an individual paper even though he has himself presented a paper before a section or has contributed to the program of the General Scientific Meetings. Not infrequently, papers dealing with entirely new scientific work are presented as parts of section programs, and the Council on Scientific Assembly is of the opinion that, if the By-Laws should be so amended as to make it impossible for one who is particularly well qualified to discuss an important scientific paper to enter into such discussion because his name has appeared on the program in connection with some other paper, the value of such presentations might be seriously lessened. In a number of instances it has seemed desirable to have as contributors to the program of the General Scientific Meetings Fellows who have accepted places on section programs, because they are thoroughly well qualified to discuss subjects that are of important, immediate interest to the rank and file of the profession. For these reasons particularly, the Council on Scientific Assembly respectfully recommends to the House of Delegates that the proposed amendment to the By-Laws submitted at the Kansas City session be not adopted.

The official program of the Atlantic City session is submitted as a part of the report of the Council.

Respectfully submitted.

IRVIN ABELL, Chairman.
FRANK H. LAHEY.
JAMES E. PAULLIN.
ALFRED A. WALKER.
J. C. FLIPPIN.
J. H. J. UPHAM, President-Elect.
MORRIS FISHBEIN, Editor, THE JOURNAL.
OLIN WEST, Secretary.
} Ex officio.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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Subscription price - - - - - Seven dollars per annum in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent. Such notice should mention all journals received from this office. Important information regarding contributions will be found on second advertising page following reading matter.

SATURDAY, MAY 1, 1937

OBITUARIES OF PHYSICIANS PUBLISHED IN 1936

A total of 3,581 obituaries of physicians was published in THE JOURNAL during 1936 including 3,475 of the United States, as compared with 3,319 in 1935. The number includes also 106 Canadians, 3 who died in the Philippine Islands, 2 each in Africa, Alaska, England, India and South America, and 1 each in China, Costa Rica, Hawaii, Panama and Puerto Rico. The obituaries of 103 women physicians were published, as compared with 83 in 1935. The number of graduates of medical schools in the United States for the fiscal year ended June 30, 1936, was 5,183. Therefore the net increase in the medical profession is 1,708.

Ages.—The average age at death of those classified as of the United States was 64.5, as compared with 64.2 in 1935. Thirty-six physicians died between the ages of 25 and 29, 65 between 30 and 34, 69 between 35 and 39, 80 between 40 and 44, 190 between 45 and 49, 262 between 50 and 54, 423 between 55 and 59, 525 between 60 and 64, 512 between 65 and 69, 460 between 70 and 74, 424 between 75 and 79, 254 between 80 and 84, 115 between 85 and 90, and 49 between 90 and 95; 10 were more than 95.

Causes of Death.—Heart disease was again the leading cause of death, as for the last several years. Some contributory causes are included. For example, when a report of the cause of death gave "chronic nephritis and heart disease," it was published as such in THE JOURNAL and was recorded on the statistical charts under both diseases. Of the causes of death from heart disease, endocarditis or myocarditis was specified in 404 cases, coronary thrombosis in 213, angina pectoris in 105 and pericarditis in 1. Other diseases of the heart caused 652 deaths. Pneumonia was the second most frequent cause with 426 deaths, of which 110 were specified as bronchopneumonia. Cerebral hemorrhage was the third most frequent cause, with 367 deaths; 21 additional deaths were reported as due to paralysis. Fourth on the list was arteriosclerosis, with 352 deaths. Of 306 deaths reported as due to cancer, the stomach and liver were affected in 68 cases, the prostate in 52, the intestine in 23, the female genital organs in 1, the buccal cavity in 1; in 160 cases the part affected was not specified. Nephritis caused 206 deaths, of which 18 were specified as acute nephritis. The number of cases in which embolism or thrombosis exclusive of coronary thrombosis was reported was 106, hypertension 87, diabetes mellitus 79, uremia 73, other diseases of the genito-urinary system 73, tuberculosis of the respiratory system 58, other forms of tuberculosis 3, cirrhosis of the liver 42, diseases of the prostate 40, senility 36, influenza 31, appendicitis 30, ulcer of the stomach and duodenum 28, intestinal obstruction 26, septicemia 24, hemorrhage and paralysis agitans 22 each, peritonitis 21, leukemia 16, meningitis 15, arthritis 14, diseases of the digestive system 14, cholecystitis 13, erysipelas 11, asthma 10, biliary calculi and brain tumor 9 each, aneurysm and pernicious anemia 8 each, gangrene 7, agranulocytosis, bronchitis, heat prostration and mastoiditis 6 each, cellulitis, diverticulitis, encephalitis, hernia, Hodgkin's disease, diseases of the liver and streptococcic infection 5 each, pancreatitis, scarlet fever, sinus infection and other diseases of the respiratory system 4 each, acute articular rheumatism, alcoholism, benign tumor, diseases of the veins, emphysema, empyema, multiple sclerosis, osteomyelitis, dementia paralytica and streptococcic sore throat 3 each, and Addison's disease, bacillary dysentery, carbuncle, malaria, multiple neuritis, otitis media, pleurisy and softening of the brain 2 each. Among other causes of death, each given in one case, were amebic dysentery, amyloidosis, brain abscess, cerebral atrophy, cerebral infarct, cerebral sclerosis, diphtheria, disseminated sclerosis, furunculosis, glaucoma, infection of the tongue, intestinal ulcer, Malta fever, multiple myeloma, osteitis fibrosa, Paget's disease, paralytic ileus, pellagra, pharyngitis, poliomyelitis, regional ileitis, ruptured coronary artery, ruptured gallbladder, scurvy, splenic infarction, splenomegaly, stricture of the esophagus, sunstroke, thrombo-angiitis obliterans, tonsillitis, traumatic epilepsy, typhoid, typhus, and Vincent's angina.

Accidental Deaths.—One hundred and eighty-two physicians died as the result of accidents in 1936, compared with 120 in the previous year. Automobile accidents accounted for 86 deaths, 15 more than in 1935. In 1936, deaths from falls numbered 37, drowning 9, injuries received in diving 2, shooting 8, overdoses of medicine 7, burns 6, carbon monoxide gas and train accidents 3 each, airplane accidents 2, and poisoning, street car accident, gas and overdose of anesthetic 1 each. In several cases unexplained fractures were given as causes of death. One was killed in Ethiopia in a bomb explosion, one was suffocated in a fire, and one was electrocuted by contact with the wires to an x-ray machine. One died as the result of the injury received when his lungs were pierced by surgical scissors in a fall.

Suicides and Homicides.—Suicide was the cause of 59 deaths in 1936, 12 more than in 1935. Shooting

accounted for 30 of these deaths, hanging and poisoning 5 each, carbon monoxide poisoning and incised artery 4 each, overdoses of morphine, jumping and scalpel wounds 2 each, chloroform and drowning 1 each. In the remaining cases the method was not mentioned. There were 4 homicides.

Civil Positions.—Among the decedents were 235 who were or had been teachers in medical schools, 426 who served in the World War, 27 veterans of the Civil War and 52 veterans of the Spanish-American War. One hundred and fifty-nine were or had been health officers, 119 members of boards of education, 98 members of boards of health and 20 members of state boards of medical examiners. There were 61 coroners, 50 mayors, 46 members of state legislatures, 27 authors, 26 bank presidents, 22 members of city councils, 22 pharmacists, 15 medical missionaries, 12 postmasters, 8 dentists, 8 editors, 7 clergymen, 4 police surgeons, 2 justices of the peace and 1 judge. There were 17 members of the U. S. Army Medical Corps, 13 of the U. S. Navy Medical Corps, 15 of the U. S. Public Health Service, 6 of the U. S. Veterans' Administration and 2 of the Indian Medical Service.

Association Officers.—Obituaries of physicians who were or had been officers of the American Medical Association included the obituary of Dr. James Tate Mason, who was President at the time of his death, 1 past president, 3 vice presidents, 2 former trustees, 15 section officers and 4 members of councils. Thirty-two members or former members of the House of Delegates died during the year. Thirty-four presidents or former presidents and 10 secretaries of the state societies were included among the officials.

FEDERAL REGULATION OF MEDICINAL USE OF CANNABIS

The Secretary of the Treasury has procured the introduction in the House of Representatives of a bill, H. R. 6385, imposing an occupational excise tax on certain dealers in cannabis, a transfer tax on certain dealings in cannabis, and providing for safeguarding the revenue therefrom by registry and recording. The primary purpose of the bill is to regulate and control the production and use of cannabis by federal authority, in order to prevent cannabis addiction. It is proposed to resort to the federal taxing power, as was done in the enactment of the Harrison Narcotic Act, and then, under regulations that in theory are necessary for the collection of the tax, to control the production, manufacture and use of cannabis and its compounds and derivatives for all purposes whatever. The persons whom it is proposed to tax and the rates of taxation are:

Physicians, dentists, veterinary surgeons and other practitioners, $1 a year or fraction thereof.

Teachers, analysts and research workers who use cannabis or its compounds or derivatives in laboratories, $1 a year or fraction thereof.

Wholesale and retail druggists and others who are not physicians, dentists, veterinary surgeons or other practitioners, nor importers, manufacturers, compounders or producers, $15 a year.

Importers, manufacturers and compounders, $50 a year.

Producers, $25 a year.

These taxes are to be payable without regard to the payment of analogous taxes under the Harrison Narcotic Act. They will probably amount to upward of a million dollars a year.

Certainly cannabis addiction cannot be traced to the medicinal use of cannabis. The medical profession today seldom dispenses or prescribes the drug. Many physicians will, however, probably feel it necessary to preserve their right to use it if and when circumstances make it advisable to do so and accordingly will feel compelled to pay the tax. Pharmacists presumably seldom have calls for cannabis, but they must nevertheless be prepared to dispense it when a call does come, so they will have to pay the tax. For the same reason the wholesale druggist and many manufacturers of drugs will feel compelled to pay. The million dollars to be collected annually by the federal government will no doubt be charged as a part of the cost of practicing medicine, dentistry and pharmacy. So also will the expense of record keeping and reporting, called for under the bill. All this will in the end be paid for by the patient and thus go to swell the cost of sickness. Thus the sick and injured must contribute toward federal efforts to suppress a habit that has little or no relation to the use of cannabis for medicinal purposes and that is already within the jurisdiction of the several states.

Without resorting to taxation, the federal government has complete authority over cannabis and its compounds and derivatives in interstate and foreign commerce and in the mails. It can control them in the territories and the District of Columbia and in other places under the exclusive jurisdiction of the federal government. It can give every state complete control over cannabis and its compounds and derivatives the moment they cross the state boundary, to supplement authority constitutionally vested in the state. Forty-six states and the District of Columbia already have laws relating to such drugs. If these laws are not adequate, or if they are not adequately enforced, the Secretary of the Treasury is under a statutory duty to cooperate with the states that are inadequately policed, to bring about the necessary improvement in the situation.

The proposed federal venture into the intrastate control of cannabis hardly seems to be justified by experience under the Harrison Narcotic Act. After more than twenty years of federal effort and the expenditure of millions of dollars, the opium and cocaine habits are still widespread. The best efforts of an efficient bureau of narcotics, supplemented by the efforts of an equally efficient bureau of customs, have failed to stop the unlawful flow of opium and coca leaves and their compounds and derivatives, on which the continuance and spread of narcotic addiction depends. The best efforts

of the Public Health Service to find means for the prevention and cure of narcotic addiction have not yet accomplished that end. Two federal narcotic farms, operating under the supervision and control of the U. S. Public Health Service, cannot yet guarantee the cure of narcotic addiction. What reason is there, then, for believing that any better results can be obtained by direct federal effort to suppress a habit arising out of the misuse of such a drug as cannabis? Certainly it is almost as easy to smuggle into the country and to distribute as are opium and coca leaves. Moreover, it can be cultivated in many parts of the United States and grows wild in field and forest and along the highways in many places.

All rights that the government aims to obtain under the pending bill, at a cost of upward of a million dollars annually, can be obtained just as well and without levying any such taxes as are now proposed, by amendments to the Harrison Narcotic Act! Unless the bill has implications that have not yet been discovered, there is no reason why they should not yet be so obtained, if they are to be granted at all. The proposed levying of an additional tax on the agencies engaged in the treatment of the sick is definitely unwarranted.

CAUSATIVE FACTORS IN ERYTHEMA NODOSUM

Erythema nodosum, dermatitis contusiformis, or nodular fever of Lendon, named by the French physician Robert Willan in 1799, has been generally considered in continental Europe to be of tuberculous origin. In England and in this country it has also been found to be associated with streptococcic sore throat, acute endocarditis, influenza, measles, chickenpox, ulcerative colitis, lymphogranuloma venereum, gonococcic septicemia, abscesses about the roots of the teeth, and following the ingestion of iodides. Many consider the condition a specific acute infectious disease. Moon and Strauss [1] described an organism of the genus Corynebacterium which they thought responsible for the disorder. Rosenow described a diphtheroid organism which he isolated from several patients and which the Philadelphia workers thought might be identical with their own.

Spink [2] recently studied ten patients with erythema nodosum and reported on 133 patients treated at the Boston City Hospital. Skin lesions were excised from patients with the disease and from patients who had been given intradermal injections of streptococcus endotoxin (nucleoprotein) and of tuberculin. Practically the same histologic changes were found in all, so that as far as etiology goes it seems that not much help is to be derived from microscopic study of the lesions. In this study there seemed to be a close association of the eruption with streptococcic infections, but other factors also were involved. Five of the ten patients had a sore throat prior to the onset; two had painful joints. Throat cultures in four patients revealed Streptococcus haemolyticus of the beta type, and eight of the patients gave a positive skin reaction to an intradermal injection of the streptococcus nucleoprotein fraction. Of the 133 patients observed from 1924 to 1934, of whom 111 were females, the eruption appeared to have a seasonal incidence closely paralleling that of the acute streptococcic infections such as acute follicular tonsillitis, scarlet fever and erysipelas. It also followed exposure to streptococcic infection. Rheumatic heart disease was present in 11.2 per cent of the patients; one had acute mitral disease and chorea. In only two cases was there a history of exposure to tuberculosis.

Tuberculosis, however, as a causative factor, has been observed too frequently to be disregarded. Especially in children does it appear to have a definite relationship. Scandinavian observers have noted that erythema nodosum is almost as frequent a complication of tuberculosis as pleurisy, and children who develop the disease are presumed to have tuberculosis until proved otherwise. The tuberculin reaction is often negative before the lesions appear but becomes positive when they do, or shortly after. Phlyctenular conjunctivitis is often associated.

The authors conclude that the disease, if such it may be called, is a nonspecific inflammatory reaction due to a variety of bacterial, toxic and chemical agents. The etiologic factor is usually of a streptococcic or tuberculous nature, the latter more commonly in children. Other causes are not infrequent and must be looked for and eradicated when possible.

1. Moon, V. H., and Strauss, Abram: Erythema Nodosum, Arch. Dermat & Syph. **26**: 78 (July) 1932.
2. Spink, W. W.: Pathogenesis of Erythema Nodosum, Arch. Int. Med. **59**: 65 (Jan.) 1937.

RECENT REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY

The Council on Pharmacy and Chemistry has issued a number of reports during the last few months indicative of its constant efforts to keep abreast of the newest therapeutic advances. The description of protamine zinc insulin, together with its actions and uses, was elaborated by the Council (THE JOURNAL, February 20, p. 640) in close cooperation with representatives of the Insulin Committee of the University of Toronto. The Council's report gives succinctly the essential attributes of the preparation.

Ingestion of the nonmetabolizable substance called mandelic acid imparts to the urine a sufficient degree of acidity to yield effective bactericidal action provided certain pathologic conditions are not present. The Council's report on this product (THE JOURNAL, March 27, p. 1033), prepared for the Council by Dr. William F. Braasch, informed the profession of the essential properties of mandelic acid therapy. However, the Council, with admirable caution, decided that the time was not yet ripe to accept the product for inclusion in New and Nonofficial Remedies and voted to await fur-

ther evidence concerning the harmlessness and usefulness of the drug. The Council felt that there are as yet insufficient pharmacologic data. As has been brought out in other papers in THE JOURNAL, if mandelic acid is not used properly and at times under careful institutional control, untoward results may follow. A number of physicians have written to THE JOURNAL concerning toxic reactions. Dr. Braasch emphasizes the need of determining whether or not primary renal insufficiency exists before the drug is employed.

Surgeons, particularly, should be interested in the report on the status of catgut sutures (THE JOURNAL, February 27, p. 722) prepared under the direction of the Council on Pharmacy and Chemistry at the request of the Board of Trustees. The survey was undertaken with two objects in view: first, to study critically the technic that has been employed heretofore in testing the sterility of catgut sutures, to modify this technic as might seem desirable and to describe it in such a manner that it might be of use to manufacturers of sutures and others interested in the control of these products; and, second, to determine the status of sterility of sutures now available on the American market and especially of those recently manufactured in comparison with those on the market some years ago. Of fourteen brands tested, samples of six firms were found not sterile. Four of the fourteen firms no longer manufacture sutures. If only sutures of recent manufacture are considered, the percentage of firms placing nonsterile products on the market drops from 43 to 12.5, indicating a decided improvement. In view of this work the Council issued a warning against the use of so-called chemically sterilized sutures; in the opinion of the Council it is better to use only heat sterilized sutures until more reliable chemical processes have been devised. The Council also felt that manufacturers should place on their labels a date of manufacture and that physicians should use those sutures which bear a date more recent than Oct. 8, 1936, at which time the report was submitted to the manufacturers. It may be stated that in the case of some of the manufacturers immediate steps were taken to safeguard further their supply of sutures. Indeed, one large manufacturer has entirely discarded his old plant and installed new machinery and a new technic. Because of the interest in this report there has been recently introduced in Congress by Senator David I. Walsh of Massachusetts a bill to place the control of ligatures under the U. S. Public Health Service. Undoubtedly physicians would approve any further safeguards that might be offered. In the meantime, the Board of Trustees and the Council on Pharmacy and Chemistry have arranged for a further survey of the market supply of catgut sutures.

In another recent issue of THE JOURNAL (April 3, p. 1172) appeared a comprehensive report on Evipal Soluble (Evipan Sodium), a quick acting hypnotic of the barbituric acid series. The Council voted that the drug be declared unacceptable until more trustworthy methods are available for determining the safe and effective dosage under a wide variety of conditions, until the contraindications—both relative and absolute—have been adequately determined, and until comprehensive pharmacologic studies make possible the fixing of responsibility of the anesthetic in many of the available clinical reports of accidents. The Council has repeatedly warned the profession concerning the dangers of the intravenous use of nonvolatile anesthetics except in case of emergencies; it recognizes and accepts products which are recommended for use as basal anesthetics.[1] In the case of Evipal Soluble the Council has analyzed a series of deaths arising from the injection of this barbital derivative. The Council recognizes that Evipal Soluble may have a restricted field of usefulness in which it may be employed with relative safety provided it is used with skill and with due regard for its limitations.

The work here reported is another tribute to the value of the American Medical Association. Only such an organization could provide the funds to maintain an unbiased body which reports fearlessly and with authority on preparations which doctors are importuned to use. Such work is costly both in time and in money. Members of the Council receive no remuneration for their work and contribute time taken from busy professional careers. The laboratory, personnel and facilities of the Council have recently been described in the Organization Section of THE JOURNAL. The profession will undoubtedly be interested in forthcoming reports of the Council, which will deal with further problems of current medical interest.

1. Intravenous Use of Barbital Compounds, Reports I and II; THE JOURNAL, Dec. 19, 1931, p. 1886, and July 15, 1933, p. 208.

Current Comment

SCIATIC PAIN AND ITS RELIEF

Freiberg[1] has recently reported several important observations on the anatomic relations of the sciatic nerve. The piriformis muscle, he states, is constantly found to have a part of its origin from the capsule of the sacro-iliac joint, and it is the only muscle which bridges that joint. This muscle is in extremely close relationship with the sciatic nerve. The nerve, in fact, is found to penetrate the substance of the muscle in 10 per cent or more of cadavers. Experiments on cadavers show that by the Lasègue maneuver the piriformis is put on the stretch after only a few degrees of straight leg raising through the medium of the biceps femoris muscle and its connection with the great sciatic ligament, from which the piriformis derives a part of its origin. The piriformis may therefore be expected to react by spasm as the result of disease in the sacro-iliac joint because of its partial derivation from the capsular ligament of this joint. It follows that the possibility of direct involvement of the sciatic nerve must be granted in case of disease or spasm of the piriformis.

1. Freiberg, A. H.: Sciatic Pain and Its Relief by Operations on Muscle and Fascia, Arch. Surg. 34: 337 (Feb.) 1937.

These observations led Freiberg to the belief that the relationship of the piriformis muscle to the sciatic nerve might be of practical importance. In demonstration of this he cites two cases of sciatic pain attributed to the piriformis muscle in which relief was obtained by cutting the iliotibial band when in contraction or by section of the piriformis muscle in the absence of the Ober sign of abduction contracture. Obviously, however, this operation for relief, when indicated, cannot be considered to fulfil the responsibility demanded by sciatic pain. Nevertheless, according to Freiberg it seems justifiable that by means of these relatively simple and safe procedures new hope can be offered to a group of cases heretofore highly refractory to professional intervention. As such a measure, Freiberg's proposal seems to offer a subject worthy of further investigation.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ARIZONA

State Medical Meeting and Election.—Dr. Harold W. Rice, Bisbee, was chosen president-elect of the Arizona State Medical Association at its annual meeting in Yuma, April 1-3, and Dr. Chester R. Swackhamer, Superior, was installed as president. Other officers are Drs. William Paul Holbrook, Tucson, vice president; Clarence E. Yount, Prescott, treasurer, and Delamere F. Harbridge, Phoenix, secretary. A public meeting was held Wednesday evening, March 31, with Dr. William W. Bauer, director, Bureau of Health and Public Instruction, American Medical Association, Chicago, as the principal speaker; his subject was "Health for Today." Dr. Bauer also addressed the state association Friday afternoon on "Doctors as Health Teachers." Other guest speakers included:

Dr. Norman N. Epstein, San Francisco, Artificial Fever Therapy.
Dr. Henry Dietrich, Los Angeles, Fallacies in the Care and Treatment of Children.
Dr. John C. Wilson, Los Angeles, Present Status of Treatment of Fractures of the Neck of the Femur.

Greetings from the Texas and New Mexico state medical associations were presented by Drs. Robert B. Homan, El Paso, and Fred D. Vickers, Deming, N. M., respectively. In addition to many other Arizona physicians on the program, the following participated in a session on industrial relations:

Dr. Jesse D. Hamer, Phoenix, Report of the Industrial Relations Committee.
Dr. Ralph F. Palmer, Phoenix, Industrial Surgery in Arizona; Responsibility of Organized Medicine and the Individual Industrial Surgeon Thereto.
Drs. Emile C. Houle, Nogales, and Charles P. Austin, Douglas, Traumatic Emergency Surgery.
Dr. William Jewell Smith, Phoenix, Injuries to the Eye Resulting from Foreign Bodies.
Mr. Carl Holmes, The Arizona State Industrial Commission.

The woman's auxiliary held its annual meeting, April 1-2. The speakers were Mrs. James F. Percy, Los Angeles, Mrs. Philip S. Doane, Pasadena, and Mrs. Mark A. Glaser, Los Angeles.

CALIFORNIA

Society News.—Dr. Claude W. Munger, formerly of Valhalla, N. Y., now of New York, addressed the Hollywood Academy of Medicine, April 15, on "The Internship—An Opportunity in Medical Education."——Dr. Bransford Lewis, St. Louis, addressed the Los Angeles County Medical Association, March 18, on "Nephropexy, the Neglected Stepchild of Surgery."——At a joint meeting of the Los Angeles Society of Ophthalmology and Otolaryngology and the Research Study Club of Los Angeles, April 26, the speakers were Drs. Grant L. Selfridge, San Francisco, on "Chronic Progressive Deafness from a Nutritional Standpoint" and Walter P. Covell, San Francisco, "Experimental Nerve Deafness from the Standpoint of Drugs, Toxins and Dietary Factors."

DISTRICT OF COLUMBIA

Annual Scientific Assembly, May 5-6.—The annual scientific assembly of the Medical Society of the District of Columbia will be held, May 5-6, under the presidency of Dr. William Mercer Sprigg. A complimentary luncheon will be given at the Mayflower Hotel, Wednesday, with Arthur Deerin Call, Ph.D., editor of *World Affairs*, Washington, as the guest speaker; his subject will be "As to the Prospects for War." A public meeting Wednesday evening will be addressed by Dr. Howard Wilcox Haggard, New Haven, Conn., on "Medicine and the Public." Guest speakers will include Drs. Francis G. Blake, Sterling professor of medicine, Yale University School of Medicine, New Haven, on "Serum Therapy in Pneumonia," and James C. White, assistant professor in surgery, Harvard University Medical School, Boston, on "The Sympathetic Nervous System in Relation to Cardiovascular Disease." Other speakers will include:

Dr. Howard P. Parker, Paraldehyde-Benzyl Alcohol Obstetrical Analgesia by the Kane-Roth Method.
Dr. Agnes B. W. Greig, Learning Disability in Intelligent Children—A Symptom of Emotional Disturbance.
Dr. Arthur C. Christie, The Socialization of Medicine: To What Extent Is It Desirable?
Dr. Henry B. Gwynn, Artificial Fever Therapy of Gonorrheal Arthritis.
Drs. Walter Freeman and James W. Watts, The Surgical Treatment of Mental Disorders.
Dr. John H. McLeod, The Use of Acacia in the Relief of Edema in Lipoid Nephrosis.
Dr. Harry A. Fowler, Mandelic Acid: The New Urinary Antiseptic.

A tour of the crime laboratory of the federal bureau of investigation will be a feature of the meeting, and trips are planned to the Smithsonian Institution and the National Institute of Health. Clinics are scheduled for Thursday morning, and, in the evening, the annual banquet at the Mayflower Hotel. The woman's auxiliary will also hold its annual session during the two days.

GEORGIA

State Medical Meeting at Macon, May 11-14.—The eighty-eighth annual session of the Medical Association of Georgia will be held at the Municipal Auditorium, Macon, May 11-14, under the presidency of Dr. Benjamin H. Minchew, Waycross. Dr. Minchew will give his official address Thursday, entitled "The Responsibility of the Layman in a Public Health Program." The Abner Wellborn Calhoun Lecture will be delivered Wednesday by Dr. Isaac A. Abt, professor of pediatrics, Northwestern University Medical School, Chicago, on "The Story of the Vitamins in Infant Nutrition." Other guest speakers will include:

Dr. John H. J. Upham, Columbus, Ohio, President-Elect, American Medical Association, Heart Disease in Middle Life.
Dr. Roy D. McClure, Detroit, The Control of Thyroid Disease in Michigan.
Dr. Charles Franklin Craig, professor of tropical medicine, Tulane University of Louisiana School of Medicine, New Orleans, Tropical Diseases of Interest to Southern Physicians.
Dr. Olin West, Secretary and General Manager, American Medical Association, Chicago.

In addition to the presentations by Georgia physicians, the program will include symposiums on fractures and on tuberculosis.

IDAHO

Dr. Dunshee Appointed Director of Public Health.—Dr. Jay D. Dunshee, public health adviser in the Department of Public Welfare of Idaho, Boise, has been appointed director of the division of public health, created in the department March 6 by the state legislature. A division of charitable institutions was also created, but up to April 1 no director of institutions had been appointed. Dr. Dunshee graduated from the State University of Iowa College of Medicine, Iowa City, in 1908. He engaged in private practice from 1908 to 1917 and from 1921 to 1926 was director of child welfare in Los Angeles. He served as health officer of Pasadena from 1929 until 1934, when he was appointed director of the state department of health of California. He has been with the Idaho department since 1936.

ILLINOIS

Meeting of Bacteriologists.—The Society of Illinois Bacteriologists will hold its annual meeting Friday evening May 7, in joint session with the Tri-State Hospital Association and affiliated organizations, at the Hotel Sherman, Chicago. The speakers will include:

L. Enos Day, Chicago, Accomplishments of Veterinary Medicine in Control of Human Tuberculosis.
G. V. Hallman, M.S., Chicago, Relation of Thermophilic Bacteria to Spoilage of Canned Foods.
Dr. Alfred S. Giordano, South Bend, Ind., Diagnosis of Undulant Fever.
Dr. Emil Weiss, Chicago, Complement Fixation in the Diagnosis of Amebiasis.

State Department and the Administration of Venereal Disease Clinics. — Numerous applications received by the state department of health from physicians seeking employment as clinicians in venereal disease clinics indicate an erroneous idea concerning the administrative policy with respect to the program of venereal disease control in Illinois, according to an announcement. The state department does not operate and does not propose to establish any clinics for the treatment of patients infected with venereal diseases. The department has begun and proposes to expand the practice of rendering financial aid to local communities for the establishment and operation of venereal disease clinics which are a factor in a community program of social hygiene. The administration of the clinics as well as the entire program is a local matter, the state department of public health insisting only that the personnel engaged be well qualified and the program meet reasonably high standards. Otherwise local authorities will have complete jurisdiction over the employment of personnel and the execution of the work.

Chicago

Society News.—At a meeting of the Chicago Society of Internal Medicine, April 26, the speakers included Drs. Lester R. Dragstedt, John Van Prohaska, Paul B. Donovan, Ph.D., and Dr. William A. Geer on "Lipocaic, A New Pancreatic Hormone" and Richard L. Webb, Ph.D., "Mesenteric Lymphatics: Analysis of the Mechanism of Drug Action as Revealed by Motion Pictures."——The Institute of Traumatic Surgery held an all day session at St. Luke's Hospital, April 23; the guest speaker was Dr. Willis C. Campbell, Memphis, Tenn., and his subject, "Ununited Fractures of the Neck of the Femur."——Dr. Albert Bessemans, formerly rector, University of Ghent, Belgium, lectured April 23 under the auspices of Northwestern University Medical School and the Institute of Medicine of Chicago; on "Experimental Data on Antisyphilitic Hyperpyrexia Produced by Physical Agents."

INDIANA

Annual Graduate Course.—The Indiana University School of Medicine and the state medical association will present their annual graduate course at the medical school and the Lincoln Hotel, Indianapolis, May 10-14. Clinics, demonstrations, lectures and clinical pathologic conferences will be offered on the specialties during the day, and evening programs will be presented by the following:

Dr. Samuel A. Levine, assistant professor of medicine, Harvard University Medical School, Boston, Cardiology.
Dr. Vernon C. David, clinical professor of surgery, Rush Medical College, Chicago, Surgery.
Dr. Nicholson J. Eastman, professor of obstetrics, Johns Hopkins University School of Medicine, Baltimore, Obstetrics.
Dr. Frank C. Mann, professor of pathology, surgery and experimental physiology, University of Minnesota, Graduate School of Medicine, Rochester-Minneapolis, Physiology.
Dr. Harold N. Cole, associate clinical professor of dermatology and syphilology, Western Reserve University School of Medicine, Cleveland, Syphilis.

A public meeting Friday evening, May 14, will be addressed by Maud Slye, A.B., associate professor of pathology, University of Chicago, on cancer. The first day of the course has been designated "Pediatrics Day," the program to be presented by the Indiana State Pediatric Society.

IOWA

State Medical Meeting at Sioux City, May 12-14.—The eighty-sixth annual session of the Iowa State Medical Society will be held at the Masonic Temple, Sioux City, May 12-14, under the presidency of Dr. Prince E. Sawyer, Sioux City. A symposium on gallbladder disease will be given Wednesday morning by Drs. Ewen M. MacEwen, Fred M. Smith, Carl L. Gillies and Frank R. Peterson, all of Iowa City. Thursday morning the program will be presented by the following:

Dr. Louis Hamman, Baltimore, Syphilis of the Heart and the Aorta.
Dr. Dean D. Lewis, Baltimore, Endocrinology as Related to Surgery.
Dr. Sanford R. Gifford, Chicago, Recent Views of Senile Cataract.
Dr. Alexis F. Hartmann, St. Louis, Hyperinsulinism and Hypoglycemia in Infants and Children.

Thursday and Friday afternoons have been set apart for sectional conferences, and the following speakers are scheduled for Friday morning:

Dr. Lewis, Surgical Lesions of the Breast.
Dr. Hamman, Abdominal Tumors.
Dr. Charles Gordon Heyd, New York, President, American Medical Association, Medical Economics.

At the smoker Wednesday evening there will be several rounds of boxing. At the banquet at the Hotel Martin, Thursday evening, Dr. Arthur D. Woods, State Center, will be toastmaster, and the speakers will be Dr. Sawyer, Dr. Edward M. Myers, Boone, president-elect, and Mr. Arthur F. Briese, Chicago. The State Society of Iowa Medical Women and branch 19, Medical Women's National Association, will meet at the Hotel Martin, May 12. The speakers will include Drs. Goldie E. Zimmerman, Sioux Falls, S. D., on "The Value of Medical Supervision During Early Childhood," and Nora Winther, Minneapolis, "Trichomonas." The eighth annual meeting of the woman's auxiliary of the Iowa State Medical Society will be held May 9.

KANSAS

State Medical Meeting at Topeka, May 3-6. — The seventy-eighth annual session of the Kansas Medical Society will be held in the Masonic Temple, Topeka, under the presidency of Dr. Howard L. Snyder, Winfield. The program includes the following speakers:

Dr. Meyer Wiener, St. Louis, Surgery of Glaucoma.
Dr. Everett D. Plass, Iowa City, Management of Abortions.
Dr. James H. Mitchell, Chicago, Streptococcal Dermatoses.
Dr. Thomas E. Carmody, Denver, Sinus Disease in Children.
Dr. Claude F. Dixon, Rochester, Minn., Cancer of the Colon.
Dr. Robert C. Jeffries, Atchison, Hyperinsulinism.
Dr. Earl C. Padgett, Kansas City, Mo., The Management of Injuries of the Face and Jaws with Special Reference to the Common Automobile Injury.
Dr. William M. Ketcham, Kansas City, Mo., Hypertensive Heart Disease.
Dr. Thomas G. Orr, Kansas City, Diagnosis and Treatment of Breast Cancers.
Dr. Russell L. Haden, Cleveland, Clinical Approach to the Rheumatic Problem.
Dr. Arnold S. Jackson, Madison, Wis., Regional Enteritis.
Dr. Archibald L. Hoyne, Chicago, Progress in the Treatment of Meningococcic Meningitis.
Dr. Elliott P. Joslin, Boston, The Diabetic as a Surgical and an Obstetrical Risk.
Dr. John Albert Key, St. Louis, Treatment of Elbow and Wrist Fractures.
Dr. Philip C. Jeans, Iowa City, Recent Advances in Nutrition.
Dr. Charles F. Taylor, Norton, A Report of Sixty Consecutive Intrapleural Pneumolyses.
Dr. Christian A. Hellwig, Wichita, Uterine Bleeding After Forty.
Dr. Herbert J. Rinkel, Kansas City, Mo., Diagnostic Problem in Food Allergy.
Dr. Walter E. Thornton, Fort Wayne, Ind., Relation of Life Insurance to Medical Practice.

The annual banquet will be held at the Topeka High School followed by a dance on the Hotel Jayhawk Roof. The Kansas branch of the Medical Women's National Association will meet at breakfast Thursday morning. The Kansas Medical Golfing and Trapshooting associations will hold their tournaments Monday; in the evening there will be a joint stag banquet.

KENTUCKY

Mortality in the Recent Flood. — The director of the bureau of vital statistics of the state board of health has reported to the U. S. Public Health Service deaths resulting directly and indirectly from the flood between January 22 and February 28. The figures are: pneumonia 252 (of which 139 were in Louisville), influenza 54, drowning in flood waters 16, explosion 15, exposure 10, accident (other than drowning and explosion) 9, heart disease 7, total 363. The public health service points out that the significance of these figures lies in the small numbers. There was no outbreak of epidemic disease.

MASSACHUSETTS

"Eye Specialist" Birnstein Sentenced Again.—Samuel Birnstein, New Orleans, was fined $600 and sentenced to two years in the house of correction by Superior Judge Thomas J. Hammond, February 24, for participation in the activities of a ring of fake eye specialists, newspapers reported (THE JOURNAL, Nov. 14, 1936, page 1643). Since Birnstein pleaded guilty last October to a charge of larceny after his arrest by postal inspectors in New Orleans, he has repaid his victims in this charge $1,500 of the $2,000 he received from them. The judge announced that he would reduce the fine against Birnstein to a nominal amount if the sum was paid in full during the remaining few weeks of that sitting of the court, it was reported. In January Birnstein was indicted with others by a federal grand jury in Milwaukee, where he pleaded guilty to charges of conspiracy and using the mails to defraud. He was fined $1,000 and sentenced to two years in federal prison, the sentence to be served on the completion of his term in the house of correction in Massachusetts.

MINNESOTA

Dr. Maxcy Goes to Johns Hopkins. — Dr. Kenneth F. Maxcy, professor and head of the department of preventive medicine and public health, University of Minnesota School of Medicine, Minneapolis, has been appointed professor of bacteri-

ology at Johns Hopkins University School of Hygiene and Public Health, Baltimore, effective July 1. He succeeds Dr. William W. Ford, who has held the position since 1920 and is retiring on account of the age limitation. Dr. Maxcy graduated from Johns Hopkins University School of Medicine in 1915. He resigned as professor of preventive medicine and bacteriology at the University of Virginia School of Medicine, Charlottesville, to accept the position at Minnesota in 1936. Recently he was appointed to a three year term with the International Health Division of the Rockefeller Foundation as one of the scientific directors. Dr. Ford is also a graduate of Johns Hopkins and has been associated with the school in various capacities since 1903.

MISSOURI

State Medical Meeting at Cape Girardeau, May 10-12.—The eightieth annual session of the Missouri State Medical Association will be held at the State Teachers College, Cape Girardeau, May 10-12, under the presidency of Dr. Ross A. Woolsey, St. Louis. Five general meetings and one public meeting will be held, with the maternal welfare committee holding a dinner session at the Marquette Hotel Monday. Dr. Norman F. Miller, professor of obstetrics and gynecology, University of Michigan Medical School, Ann Arbor, among others, will address this dinner meeting on "Critique of Submitted Maternal Death Reports." Dr. Miller will also present a paper entitled "How Bad Is Obstetric Care?" at a general session Tuesday. Dr. Herman E. Pearse Jr., Rochester, N. Y., will speak Wednesday on "Care of Infections of the Neck and Their Complication, Mediastinitis." Other speakers will include:

Walter W. Parker, LL.D., Cape Girardeau, president, Southeast Missouri State Teachers College, A Pedagogue Looks at the Doctors.
Dr. George Wilse Robinson Jr., Kansas City, The Addiction of Patients to Various Barbituric Acid Derivatives.
Dr. Roland M. Klemme, St. Louis, Accurate Differential Section for the Treatment of Trigeminal Neuralgia.
Drs. Wendell G. Scott and Sherwood Moore, St. Louis, Roentgen Kymography: A New Aid in the Diagnosis of Heart Disease.
Dr. Clinton K. Smith, Kansas City, A Revised Conception of Early Prostatic Hypertrophy.

At the public meeting, Tuesday evening, Dr. Ellis Fischel, St. Louis, will discuss "Early Recognition and Treatment of Cancer" and Dr. Edwin Lee Miller, Kansas City, "Appendicitis."

NEW MEXICO

State Medical Meeting at Clovis.—The annual session of the New Mexico Medical Society will be held at Clovis, May 13-15, with headquarters at the Hotel Clovis. The speakers announced on the program are:

Dr. Arthur E. Hertzler, Halstead, Kan., Surgery of the Thyroid.
Dr. Ray M. Balyeat, Oklahoma City, Therapeutic Value of Intratracheal Use of Iodized Oil Combined with Eliminative Measures and and Specific Desensitization in the Treatment of Intractable Asthma.
Dr. Everett C. Fox, Dallas, Texas, Cancer of the Skin.
Dr. Harold T. Low, Pueblo, Colo., Vesical Neck Obstruction in Male Children.
Dr. Barton A. Rhinehart, Little Rock, Ark., Functional Disorders of the Gastro-Intestinal Tract.
Dr. Henry C. Gernand, Los Angeles, Conduct of Labor in Regard to Operative Intervention.
Dr. Meldrum K. Wylder, Albuquerque, Care of the New-Born.
Dr. William H. Daniel, Los Angeles, The Present Management of Cancer of the Rectum.
Dr. Melvin S. Henderson, Rochester, Minn., Modern Orthopedic Surgery.
Dr. Hugh G. Jeter, Oklahoma City, Blood Dyscrasias.
Dr. John A. Schoonover, Denver, subject not announced.

Dr. George W. Jones, Clovis, will be installed as president of the society at this meeting, to succeed Dr. Mallory B. Culpepper, Carlsbad.

NEW YORK

The Will Rogers Memorial Hospital.—The former National Vaudeville Artists Sanatorium at Saranac Lake became officially the Will Rogers Memorial Hospital February 25, when Will Hays presented the deed to Jesse H. Jones, treasurer of the Will Rogers Memorial Commission.

Society News.—The twenty-first annual meeting of the New York State Association of Public Health Laboratories will be held, May 10, at the Binghamton City Hospital. ——Dr. Perrin H. Long, Baltimore, addressed the Medical Society of the County of Albany, March 24, on "The Use of Para-Amino-Benzene-Sulfonamide in the Treatment of Beta-Hemolytic Streptococcal and Other Infections."——At a meeting of the Onondaga Medical Society, Syracuse, April 6, the speakers were Drs. Abraham Clement Silverman, on "What's New About Scarlet Fever"; Joseph Ernest Delmonico, "Acute Pancreatitis," and Arthur N. Curtiss, "Treatment of Peripheral Vascular Disease."——Speakers who addressed the Syracuse Academy of Medicine, April 20, were Drs. Harry A. Steckel, on "What's New About Dementia Praecox"; William E. Ayling, "Tuberculosis Case Finding in School Children," and Nathan P. Sears, "Carcinoma of the Cervix."——The New York State Conference of State, County and City Committees on Tuberculosis and Public Health of the State Charities Aid Association will be held at the Hotel Roosevelt, New York, May 11-13.

New York City

Personal.—Dr. Simon Flexner, emeritus director of the Rockefeller Institute for Medical Research, received the honorary degree of doctor of science at the recent centennial celebration of the University of Louisville School of Medicine, Louisville, Ky., April 3.——Dr. William Bierman was made a member of the Legion of Honor of France during the recent International Congress on Fever Therapy in New York, in recognition of his research on artificial fever.——Israel S. Kleiner, Ph.D., professor of physiology and biochemistry, New York Medical College and Flower Hospital, has received a grant from the Lucius N. Littauer Foundation to aid his studies of the male hormone.

Hospital Strikers Convicted of Disorderly Conduct.—Thirty-seven men and one woman were convicted of disorderly conduct and sentenced to thirty days in the city prison, March 24, after they had participated in sit-down strikes at the Brooklyn Jewish Hospital March 15 and 17. The sentences were suspended pending good behavior, which the judge defined as not doing anything to interfere with the routine of the hospital. Sixty-three strikers were discharged after they had refused to return to work, and those who declined to leave the hospital peacefully were arrested on the ground that, as they were no longer employed by the hospital, they were trespassing on private property. The workers included elevator operators, orderlies, laundry workers and maids.

NORTH DAKOTA

Health Officers Appointed.—Dr. Frank E. Bunting, Mandan, has recently been made health officer of Morton County. ——Dr. Eugene E. Hamilton, New Leipzig, has succeeded Dr. Leonard B. Moyer as health officer of Grant County.

New Unit at State Tuberculosis Hospital.—A new unit to accommodate 125 patients will be placed in operation about May 10 at the North Dakota State Tuberculosis Sanatorium, San Haven. With the new addition the sanatorium will furnish service to 425 patients. The new unit is five stories high and of fireproof construction, faced with brick over tile. There is no wood in the walls and floors. The first floor is devoted to administrative offices, waiting rooms, examination rooms and surgery rooms; the second, third and fourth floors to wards for patients, and the fifth to a solarium. The entire cost of the unit was $300,000, of which the state paid $160,000 and the remainder was a PWA grant. Equipment will cost $96,148.

OKLAHOMA

Personal.—Dr. Albert L. Davenport, Holdenville, has been appointed health officer of Hughes County to succeed Dr. Charles S. Wallace, Holdenville.——Dr. Clyde W. Beson, Claremore, former state health commissioner, has been appointed medical adviser to the state industrial commission.——Dr. Charles S. Bobo, Norman, was recently honored by a banquet given by the Cleveland County Medical Society in celebration of his eighty-first birthday.

Society News.—Drs. Lee Pettit Gay, St. Louis, and Herbert J. Rinkel, Kansas City, Mo., addressed the Tulsa County Medical Society, Tulsa, March 22, on "Peptic Ulcer: A New Etiological Concept" and "Treatment of Seasonal Hay Fever: The Evaluation of Secondary Factors in Seasonal Pollinosis" respectively.——Drs. Earl D. McBride and William K. Ishmael, Oklahoma City, addressed the Garfield County Medical Society, Enid, March 18, on arthritis, and Dr. Howard B. Shorbe, Oklahoma City, on immobilization and surgical care of fractures.

PENNSYLVANIA

Graduate Assembly in Harrisburg.—The annual graduate assembly presented by the Harrisburg Academy of Medicine will be held May 27 in the educational building at the state capitol. The following speakers will appear:

Dr. Hugh H. Young, Baltimore, The Prostate.
Dr. Philip W. Brown, Rochester, Minn., The Management of Diarrhea.
Dr. Clifford G. Grulee, Evanston, Ill., Breast Feeding.
Dr. Cary Eggleston, New York, Treatment of Heart Disease.
Dr. Isidor S. Ravdin, Philadelphia, Problems of Gallbladder Disease.
Dr. John P. Griffith, Pittsburgh, Diagnosis and Treatment of Hyperthyroidism.

Philadelphia

Award Presented to Dr. Turnbull.—The Strittmatter Award, given annually by the Philadelphia County Medical Society, was presented April 14 to Dr. William G. Turnbull, superintendent of the Philadelphia General Hospital since 1928. Dr. Turnbull was graduated from the University of Pennsylvania School of Medicine in 1906 and became superintendent of the Pennsylvania State Sanatorium for Tuberculosis at Cresson when it was established in 1913. Later he was appointed deputy state secretary of health with supervision over several state sanatoriums. He succeeded Dr. Joseph C. Doane in 1928 at Philadelphia General Hospital. The Strittmatter Award was established by Dr. Isidore P. Strittmatter to be given to the physician who has "made the most valuable contribution to the healing art, including remedial measures, surgical or medical." The presentation was at a dinner during the society's Postgraduate Institute. At this time Dr. John Shelton Horsley, Richmond, Va., delivered the John Chalmers Da Costa Oration on "Peritonitis."

Pittsburgh

Annual Meeting.—The Allegheny County Medical Society held its annual meeting at Hotel Schenley April 20. In the afternoon a scientific program was presented with addresses by Drs. Wingate Todd, Cleveland, on "Methods of Studying Constitutional Disturbances Associated with Allergy and Other Conditions"; James S. Taylor, Altoona, "Maternal and Fetal Mortality"; Leo H. Criep, Pittsburgh, "Allergy to Liver Extract," and Jesse B. Griffith, Pittsburgh, "Manipulation Treatment in Diseases of the Knee Joint." General Hugh S. Johnson, New York, was the speaker at the banquet.

Dedication of Mellon Institute Building.—The new building of the Mellon Institute for Industrial Research will be dedicated May 6. The program of the ceremony which will be held in Carnegie Music Hall, will include the following speakers: Dr. William P. Murphy, Boston; Harold C. Urey, Sc.D., professor of chemistry, Columbia University; Irving Langmuir, D.Sc., associate director of the research laboratory, General Electric Company, Schenectady, N. Y.; Andrew W. Mellon, former Secretary of the Treasury, and Richard K. Mellon, for the founders. Friday May 7 there will be a symposium on recent progress in science in Carnegie Music Hall, in which the speakers will include Sir Frederick G. Banting, Toronto, Ont.; Dr. William W. G. Maclachlan, Pittsburgh; Frank B. Jewett, Ph.D., Bell Telephone Laboratories, New York, and George O. Curme Jr., Ph.D., vice president and director of research, Carbide and Carbon Chemicals Corporation, New York. The building will be open to the public Saturday and Sunday, May 8-9.

TEXAS

State Medical Meeting at Fort Worth.—The seventy-first annual session of the Texas State Medical Association will be held in Fort Worth, May 11-13, with headquarters at the Hotel Texas. The following guest speakers will address general sessions Tuesday morning, Wednesday and Thursday afternoons:

Dr. Charles Gordon Heyd, New York, President, American Medical Association, on The American Medical Association—Your National Society.
Dr. Edward Clay Mitchell, Memphis, Tenn., Infection and Immunity with a Résumé of Prevention of Contagion.
Dr. Walter E. Dandy, Baltimore, Brain Tumors.
Dr. William Warner Watkins, Phoenix, Ariz., Halisteresis as a Medical Problem.
Dr. Francis E. Le Jeune, New Orleans, The Significance of Hoarseness (Motion Picture).
Dr. Joseph Rigney D'Aunoy, New Orleans, Lymphogranuloma Inguinale.
Dr. Lewis J. Moorman, Oklahoma City, Diagnostic Problems in Diseases of the Respiratory Tract.
Dr. Virgil S. Counseller, Rochester, Minn., Cancer of the Reproductive Organs of Women.
Fred Hale, M.S., College Station, Texas, The Relation of Maternal Vitamin A Deficiency to Microphthalmia in Pigs.
Dr. Thomas Parran, surgeon general, U. S. Public Health Service, Public Health Control of Syphilis.

Several of the guests will also address section meetings. Wednesday there will be three "clinical luncheons" given by the sections in honor of their guests and on Thursday a combined sections luncheon. The section on public health will present a symposium on syphilis, with Drs. James W. Bass, Everett C. Fox and Arthur G. Schoch, Dallas; Leroy B. Duggan, Houston, and George W. Cox, Austin, state health officer, as the speakers. The section on radiology and physical therapy will have symposiums on pneumonia and bone tumors. Thursday morning a tumor clinic will be held in cooperation with the Texas State Pathologic Society. The woman's auxiliary will hold its nineteenth annual session under the presidency of Mrs. Robert B. Homan, El Paso. The president's reception will be at the Hotel Texas, Tuesday evening May 11, honoring Dr. Howard R. Dudgeon, Waco, president of the state association. Monday evening the Tarrant County Medical Society will entertain the visiting physicians. Related organizations that will meet during the week are the Texas Railway Surgeons Association, Texas Neurological Society, Texas State Heart Association, Texas Dermatological Society, and a conference of county and city health officers called by the state health officer.

GENERAL

Society News.—The twenty-second National Recreation Congress will be held in Atlantic City, May 17-21, with headquarters at the Ambassador.——The National Congress of Parents and Teachers will hold its forty-first annual meeting in Richmond, Va., May 3-7.——The Academy of Physical Medicine will meet, October 19-21, at the Hotel Walton, Philadelphia.

Meetings in Atlantic City.—The place for the annual luncheon of Phi Delta Epsilon during the annual session of the American Medical Association at Atlantic City has been changed from the Ritz-Carlton to the Ambassador, Thursday, June 10, at 12:30 p. m.——The annual Alpha Omega Alpha dinner during the annual session of the American Medical Association will be held at the Hotel Ambassador, Atlantic City, Thursday evening June 10. Dr. Walter Bradford Cannon, Boston, will be the speaker, on "The Value and Harm of Scientific Controversy."

Association of the History of Medicine.—The thirteenth annual meeting of the American Association of the History of Medicine will be held at Haddon Hall, Atlantic City, N. J., May 3. This meeting will commemorate William Wood Gerhard's differentiation of typhus from typhoid in 1837. The program will include the following speakers:

Dr. William S. Middleton, Madison, Wis., William Wood Gerhard.
Drs. George M. Dorrance and John W. Bransfield, Philadelphia, How the Ancients Treated Fracture of the Mandible.
Dr. Logan Clendening, Kansas City, Mo., The Medical Winning of the West.
Dr. Michael Leo Ravitch, New York, Metchnikoff, the Great Scientist and Nihilist.
Dr. Henry E. Sigerist, Baltimore, Medical History in the United States.
Dr. Maude E. S. Abbott, Montreal, More About Osler.

Child Welfare League Appoints Pediatrician.—Dr. Florence A. Browne, Detroit, has been appointed pediatrician to carry out a consultation and field service for the Child Welfare League of America under a grant from the Commonwealth Fund. Dr. Browne graduated from Johns Hopkins University School of Medicine, Baltimore, has served as pediatrician of the Michigan State Department of Health and has been in pediatric practice in New York. She began her service with the league March 1. The need for this service has become acute since the cessation of the program of the American Child Health Association, the league points out. It will now be possible to aid organizations caring for children in the development of plans for physical examinations of children, immunization, preparation of health records, and other health services.

Automobile Fatalities in Major Cities.—The U. S. Bureau of the Census reports that 9,599 deaths from automobile accidents occurred during 1936 in 131 major cities, a reduction of 178 from the number reported in 1935. During the first half of 1936, fatalities were reduced below the 1935 figures in sixty-three cities, but in the latter half of the year the toll rose rapidly. New York decreased its fatal accidents by 12.9 per cent, and Chicago by 8.8 per cent. Among other large cities that reported reductions were Baltimore, 12.8 per cent; Boston, 6.9; Camden, N. J., 43.3; Dallas, 15.1; Des Moines, 48.7; Newark, 17; New Orleans, 30.5; Omaha, 59.5; St. Louis, 38.9, and Worcester, Mass., 28.6. San Francisco reported 50 per cent more deaths, ninety in 1936 as compared with sixty in 1935. Other increases over the previous year were Albany, 23.8 per cent; Birmingham, 28.6; Detroit, 19; Milwaukee, 19.6; Philadelphia, 13.5; Pittsburgh, 4.1, and Wilmington, Del., 36.4.

Conference of Health Authorities.—The annual Conference of State and Provincial Health Authorities of North America was held April 5-6, in Washington, D. C., at the U. S. Public Health Service Building. Dr. Robert H. Riley, Baltimore, state health director of Maryland, was elected president; Dr. Maysil M. Williams, Bismarck, state health officer of North Dakota, vice president, and Dr. John A. Ferrell, New York, was reelected field secretary. The program included a symposium on flood health problems by Drs. Arthur T. McCormack, Louisville, Ky.; Wilson C. Williams, Nashville,

Tenn., and Walter H. Hartung, Columbus, Ohio, health officers of their respective states. The following papers, among others, were presented:

Dr. Thomas Anwyl-Davies, London, Public Health Control of Syphilis in Great Britain.
Dr. Ambrose J. King, London, Public Health Control of Gonorrhea in Great Britain.
Dr. Rufus I. Cole, New York, Possibilities for Pneumonia Control as Indicated by Present Scientific Knowledge.
Dr. Roscoe R. Spencer, U. S. Public Health Service, The U. S. Public Health Service Program of Public Health Education.
Dr. Halbert L. Dunn, U. S. Bureau of the Census, Resident Death Rates and Public Health.

Tri-State Hospital Assembly. — The Tri-State Hospital Assembly, sponsored by the hospital associations of Illinois, Indiana and Wisconsin, will be held at the Hotel Sherman, Chicago, May 5-7. Subjects to be discussed include "The Administrative Organization of the Hospital," "Maintaining Professional Service Standards in Hospitals" and "Organization and Arrangement of the Physical Therapy Department with Regard to Efficiency, Economy and the Budget." In addition to round table and panel discussions presented by the constituent associations, the following, among others, will speak:

Dr. Clement C. Clay, Chicago, The Adoption of a Standard Insurance Form for Proof of Death and Disability.
Dr. William H. Walsh, Chicago, Correct Designing of a Medical Record Library.
Chester F. Farmer, M.S., Chicago, A Micromethod for the Estimation of Ascorbic Acid in Blood.

At the annual banquet Thursday evening, sponsored by the Chicago Hospital Association, the speakers will be Drs. Philip F. Schneider, Evanston, Ill., and Israel Davidsohn, Chicago; their subjects are, respectively, "An Evaluation of Tests Being Used to Determine Pregnancy" and "Infectious Mononucleosis: Its Hematologic and Serologic Diagnosis."

PUERTO RICO

Society News.—Dr. Isaac F. Gonzalez Martinez, San Juan, was recently reelected president of the Puerto Rico chapter of the Pan American Medical Association; Dr. Jose Rodriguez Pastor, San Juan, vice president, and Dr. Rafael Rodriguez Molina, San Juan, secretary.

University News.—Nicholas Murray Butler, Ph.D., president of Columbia University, New York, paid a visit of inspection recently to the School of Tropical Medicine of the University of Puerto Rico, which is under the auspices of Columbia. The university conferred on Dr. Butler the honorary degree of doctor of laws, honoris causa. Dr. Alwin M. Pappenheimer, professor of pathology in the College of Physicians and Surgeons at Columbia, and Dr. Frederic M. Hanes, professor of medicine, Duke University School of Medicine, Durham, N. C., have recently visited the school for lectures and research.

FOREIGN

Course in Malariology in Rome.—The Institute of Malariology, Ettore Marchiafava, at the Policlinico Umberto I, Rome, will offer special courses to graduate physicians from July 15 to September 20. The lectures will be given in French, but interpreters will be available. There will be lectures and demonstrations of hematology, protozoology, the parasites of malaria and microscopic diagnosis, entomology, epidemiology and prophylaxis. The course will also cover malarial treatment of mental diseases, visits to malaria patients, visits and residence in an experiment station and in a center of induced malaria. Special steamship and railroad rates may be obtained, a reduction of about 50 per cent for individuals and 70 per cent for groups of eight or more. Information as to steamship rates, lodging and other details may be obtained by writing to the Royal Consul General of Italy, 626 Fifth Avenue, New York. Applications must be made before June 20.

World Congress on Documentation.—A World Congress of Universal Documentation is being organized to take place in Paris, August 16-21, under the auspices of an International Committee on Documentation. Defining the term documentation, an announcement includes all documents, manuscripts printed or otherwise recorded, catalogues, indexes, bibliographies and the methodical use of them in archives, libraries, documentation centers and museums. All those concerned in this large field are interested in a rational organization of documentation, it is stated, and various organizations have been working toward this end. The purpose of the congress will be to inquire into the present state of things and to examine principles, programs and methods, to draw up a minimum plan of work and service and to make a collective agreement to uphold any decisions made. Watson Davis, director of Science Service, Washington, D. C., is the American member of the International Committee of Documentation.

Government Services

Colonel Metcalfe Named Assistant Surgeon General

Col. Raymond F. Metcalfe, chief of the surgical service, Walter Reed General Hospital, Washington, D. C., has been appointed assistant to the surgeon general with the rank of brigadier general. He succeeds Brig. Gen. M. Augustus W. Shockley, who retired February 28, on his own application, after more than thirty years' service. A native of Salamanca, N. Y., the new assistant surgeon general graduated from the University of Buffalo College of Medicine in 1900 and the following year began his service with the army as assistant surgeon. During the World War, General Metcalfe served in France as chief surgeon of the thirty-sixth division and later of the First Army, participating in the Oise-Aisne and Meuse-Argonne operations. For his service in connection with the suppression of influenza epidemics in the American Expeditionary Forces, he was awarded the Distinguished Service Medal.

Annual Report of Children's Bureau

A summary of the annual report of the Children's Bureau of the U. S. Department of Labor lists recommendations based on activities of the bureau and on the increase in its work brought about by the Social Security Act. Under the heading "Social Security for Children," the report recommends: (1) a public welfare program extending throughout every state and including provision for public assistance for those whose economic needs cannot be met by private or public employment; (2) assessment of resources for medical care, especially care available for mothers and children; (3) study of methods of care for crippled children; (4) development of adequate medical and social services for blind and deaf children; (5) provision for feebleminded, epileptic and psychopathic children, and (6) extension of the provisions of the maternal and child welfare provisions of the Social Security Act to Puerto Rico. The report repeats a recommendation previously made for an inquiry into maternal and infant mortality. Administration of maternal and child welfare should be developed especially along the following lines, the report points out: just distribution of financial responsibility, wise leadership from the larger units, flexibility of programs, and stanch adherence to the merit system of appointments. The report finally urged ratification of the Child Labor Amendment to the Constitution by the remaining states necessary to put the amendment into effect and development of better methods of administering the law.

New Army Medical Officers

As a result of a recent examination, the following officers of the reserve corps have been commissioned as first lieutenants in the medical corps of the regular army:

Robert J. Benford, Brooklyn.
Albert A. Biederman, Fort Leavenworth, Kan.
Theodore M. Carow, Fort Thomas, Ky.
Edward A. Cleve, Fort Knox, Ky.
William F. Conway, Washington, D. C.
Lester Orville Crago, Fort Benjamin Harrison, Ind.
Warren H. Diessner, Oswego, N.Y.
Claude C. Dodson, El Paso, Texas.
Charles J. Farinacci, Baltimore.
Edwin M. Goyette, Northfield, Vt.
Alfred A. Grebe, El Paso, Texas.
Robert J. Hoagland, San Antonio, Texas.
William F. Holmes Jr., Fort Sill, Okla.
Rex C. House, Lawton, Okla.
Eugene C. Jacobs, River Forest, Ill.
Bruno B. Jastremski, Winthrop, N. Y.
Marshall N. Jensen, Omaha.
Douglas B. Kendrick Jr., Edgewood, Md.
Ronald F. Kirk, Fort Logan, Colo.
Emmert C. Lentz, Los Angeles.
Lee P. Mayes, Cape Cottage, Me.
James G. Moore, Sault Ste. Marie, Mich.
Harold A. Myers, Des Moines, Iowa.
Gus W. Neece, Fort Moultrie, S. C.
Kenneth R. Nelson, Fort George G. Meade, Md.
Gottlieb L. Orth, Fort Belvoir, Va.
Donald B. Peterson, Grand Marais, Minn.
William J. L. Porcher, Denver.
Ryle A. Radke, formerly Port Townsend, Wash.
Merrill J. Reeh, Sultan. Wash.
Weldon K. Ruth, Fort Sill, Okla.
Dean Schamber, Fort Snelling, Minn.
Lewis C. Shellenberger, Carlisle, Pa.
Albert W. Shiflet, Casper, Wyo.
Scott M. Smith, Shreveport, La.
James P. Sullivan, formerly of Chevy Chase, Md.
Myron J. Tremaine, Youngstown, N. Y.
Harold V. Weatherman, Fort Douglas, Utah.
Edward R. Wernitznig, Belleville, Ill.
William E. Wilkinson, Franklinton, N. C.
William D. Willis, Dallas, Texas.
Paul O. Wells, San Antonio, Texas.
Lloyd E. Gould, Grand Canyon, Ariz.
Beverly Dixon Holland, Fort Stevens, Ore.
Santino J. Lerro, Fort Howard, Md.
Donald E. Casad, Banning, Calif.
Charles O. Bruce Jr., Lincoln, Neb.
Nicholas F. Atria, Fort Benning, Ga.
Joseph Rich, Newport, R. I.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 3, 1937.

The Value of Irradiation in Malignant Disease

At the Royal Society of Medicine, Mr. Sampson Handley read a paper on the value of preoperation and postoperative irradiation in malignant disease. He could not draw any sharp line between radiation by x-rays and radiation by radium, though he thought the latter more effective in quality and subject to fewer drawbacks; but each method had its field. Mr. Handley mentioned three cases in which, subsequent to removal of internal abdominal malignant growths, nodular lumps appeared in the abdominal scar itself. Since radium can destroy massive implantation recurrences, it would a fortiori, if applied just after operation, destroy the microscopic cancer cells which are the seeds of recurrence. For this purpose Mr. Handley considered high voltage x-rays as effective as radium and more convenient. The facts of implantation recurrence alone provided a wide field for the postoperative use of high voltage x-rays. There were indeed few cases in which the possibility of implantation could be excluded. In all cases of gastric, intestinal or pelvic malignant disease, as well as in breast cancer and in operations for malignant glands in the neck, a short course of high voltage x-rays should be applied to the scar after operation. Some surgeons would prefer insertion of radium tubes in the wound at the time of operation.

Preoperative irradiation need hardly be considered with regard to implantation recurrence, unless it was believed that it could be made so effective that every cell in the growth could be deprived of the power of proliferation. But then operation would be superfluous. In cases of doubt whether operative removal of a disseminating growth was complete, the crucial question was whether it was better to apply supplementary radiation before or after operation. Mr. Handley referred mainly to cancer of the breast. In dealing with the question he had the difficulty that he never advised preoperative irradiation, except in rare cases as a possible means of converting a fixed inoperable growth into a mobile one. His reasons against preoperative irradiation were as follows: It involves delay in performing the operation, giving time for the deep microscopic extensions of the growth, its most dangerous part, to make further advance. Though the primary growth might shrink under the x-rays, the evidence was that dissemination was unchecked. Even by modern apparatus and methods it was difficult to convey to any considerable distance beneath the skin a lethal dose of x-rays to carcinoma cells. This applied to attempts to irradiate carcinoma cells in the pectoral fascia or muscle through a voluminous breast. But after removal of the breast even deeper layers, such as the intercostals and pleura, are brought near the skin and exposed to the full force of irradiation. The apical glands of the axilla and the internal mammary glands were so sheltered that Mr. Handley doubted whether they could be dealt with by any dose of x-rays that the overlying skin could tolerate. But the apical glands can be removed and the internal mammary glands can be treated at the time of operation by interstitial radium tubes. Mr. Handley had found the latter effective.

Mr. Handley considered that the best hopes for progress in treatment lay in public education as to the necessity for prompt treatment of suggestive lumps and in a closer study by radiologists, as well as by surgeons, of the details of dissemination, and in the routine application after operation of a short prophylactic course of x-rays at at least 180,000 volts.

A Bureau of Geographic Medicine

Correspondence has taken place in the *British Medical Journal* on the need for a bureau of geographic medicine. Dr. F. C. Eve, who began the discussion, said that clinicians must long have been tantalized by reading isolated observations such as "The cultured Chinese never suffer from high blood pressure." He wanted to know if such statements were reliable. He envisaged "The Central Bureau of Geographical Medicine," which would coordinate and digest such observations from all over the world. The suggestion was supported by Dr. W. P. Kennedy, professor of physiology in the Royal College of Medicine in the University of Baghdad, who has found significant differences between the blood of British subjects in Iraq and in Britain. The explanation had not been elucidated, but the facts appeared to point to climatic factors as responsible. Professor Kennedy has had considerable difficulty in finding literature on hematologic standards in different parts of the world. Prof. L. T. Ride, who occupies the chair of physiology in the University of Hong-Kong, points out that there is in existence an organization which to some extent meets the need expressed. Those who work among non-European races soon recognize that physiologic constants cannot be applied from one race to another. At the meeting of the International Federation of Eugenic Organizations in Zurich in 1934 this problem was discussed and the result was the formation of the Committee on Anthropological Physiology, of which Professor Ride is chairman. The aims are to stimulate the investigation of physiologic constants among various races, to make contact with the workers on this subject in different parts of the world, to ensure the use of similar methods so that comparative data may be of greater value, and to provide for meetings of the investigators. The committee has members in the United States (Prof. L. H. Snyder of Columbus, Ohio, Prof. F. G. Benedict of Boston), China, India, Japan, the Netherlands Indies, New South Wales, South Australia and Denmark.

The Cambridge Chair of Physiology

The Cambridge school of physiology has long been the leading one in Great Britain. The professor of physiology, Sir Joseph Barcroft, F.R.S., will this year retire. He has played a great part in maintaining the tradition of the school. His early investigations were concerned mainly with the carriage of oxygen by the blood and with chemical changes in the salivary glands and kidneys, which he found used more oxygen when active than when at rest and which liberated metabolites that controlled their blood supply. In order to study the gases in small samples of blood or other tissues he invented a differential manometer, known everwhere as Barcroft's apparatus. For many years he has represented Cambridge against Oxford in favor of the view that the passage of gases through the epithelium of the pulmonary alveoli is a simple physical process and that the lungs cannot take up oxygen unless its pressure in the air is greater than in the blood. In support of this view he led an expedition up high mountains and exposed himself for many days to low oxygen pressure in a glass box. He has shown that the spleen plays an important part in the circulation as a reservoir of blood, which is released in emergencies, and he has added much to our knowledge of the oxygen supply of the fetus in utero.

Sir Joseph Barcroft is succeeded by another eminent physiologist, E. D. Adrian, F.R.S., who is Foulerton research professor of the Royal Society. Before the war he worked at Cambridge with Lucas on the problems of the motor impulses in nerves. He left Cambridge and became resident medical officer at the National Hospital for Nervous Diseases. In 1919 he began his well known work "The Physical Basis of Sensation." He took advantage of the new methods for ampli-

fying electric currents and tapped the messages in nerves. He thus analyzed sense organs in a way that was not previously possible. In recognition of this work he received the Nobel prize for medicine in 1932. In 1935 he published another important work, entitled "The Mechanism of Nervous Action."

The Marie Curie Hospital

In 1929 a hospital, staffed by women, was founded in London for the radiologic treatment of women suffering from cancer and was appropriately named the Marie Curie Hospital, after the woman who discovered radium. Queen Mary, who is patron of the hospital, has opened in it new and enlarged laboratories. Lord Dawson, president of the Royal College of Physicians, who presided at the ceremony, said that this radium hospital, staffed by women physicians, had already done much excellent work. Of its thirty-nine beds, twenty-nine were devoted to the needs of uterine cancer. The results were encouraging. Of the cases taken at an early stage, disease was absent in as many as 85 per cent at the end of five years. Of the cases in which the disease was firmly established, the same freedom was shown in as many as 65 per cent. Even among those in whom the disease was advanced on reaching the hospital the results were encouraging, at times astonishingly so. Mlle. Eve Curie said that her mother had always been much interested in the work of the hospital, though she regretted that at its foundation it had no research laboratory.

Road Accidents in 1936

Details of the road accidents in 1936 have just been published. There were in Great Britain 198,978 road accidents in which persons were killed or injured, an increase of 3,086 over the preceding year. The persons killed numbered 6,561, an increase of fifty-nine, and the injured numbered 227,813, an increase of 6,087. Of the vehicles to which the accidents were attributed, private automobiles formed the largest group, with 64,529 accidents, an increase of 2,520 on the previous year. Pedal cycles were involved in 61,932 accidents, an increase of 1,493; motorcycles in 24,990, a decrease of 695. Of the 6,561 persons killed, 3,068 were pedestrians, an increase of thirty over the previous year. There were 1,498 pedal cyclists killed, an increase of ninety-eight. Of the injured, 74,576 were pedestrians, an increase of 399; 71,193 were pedal cyclists, an increase of 2,141. Fatal accidents numbered 6,359, an increase of forty-five. There were more in December (677) than in any other month.

The Protection of the Civilian Population Against Air Raids

As shown in previous letters, preparations for the protection of the civilian population against air raids go on unceasingly. Throughout the country men and women in large numbers are being trained in first aid and decontamination duties, and 300,000 air raid wardens are being appointed to direct the people in emergencies. A silver badge is being issued to men volunteers and a silver brooch to women. Gas masks are being turned out at the rate of 500,000 a week.

In a communication to the *Lancet*, Dr. J. A. Ryle, professor of physics in the University of Cambridge, points out that while so much is being done in the instruction of physicians, police and others in antigas measures, little is being done in arranging for the collection, sorting, evacuation and treatment of the numerous casualties that must occur in spite of all the measures taken. One or two large scale raids with gas, incendiary bombs and high explosives might easily fill all the hospitals of a city to overflowing, and the hospitals themselves might not escape damage. In addition to aid posts and clearing stations, fleets of ambulances would be needed, and a circle of schools and other suitable buildings well beyond the outskirts of exposed towns would have to be equipped as hospitals.

PARIS

(From Our Regular Correspondent)

April 3, 1937.

American Hospital of Paris in Need of Support

An earnest appeal to all American residents of France, as well as to those who are in the habit of passing several months of the year in this country, to contribute to the support of the American Hospital of Paris was made recently by Arthur T. Kemp, president of the institution, at the annual meeting of the hospital board of governors. An appeal was made to Americans who reside abroad or visit Europe to subscribe $20 a year as ordinary members or $500 as life members. The American Hospital, out of its special and general funds, rendered hospital services to needy patients unable to pay the usual hospital charges in whole or in part, representing in the aggregate an amount of $68,897, or 1,501,972 francs, of free service at the present rate of exchange. Many improvements have been effected in the hospital during the last year, including a new ventilating system as well as dish-washing and sterilizing machinery in the kitchen, the establishment of a cafeteria for the nursing and office staff, and the addition of new equipment to the department of hydrotherapy. Mr. Kemp was reelected president and Mr. E. B. Close, who has voluntarily served as manager for the past three years, was thanked for his excellent work and reelected first vice president. Dr. E. L. Gros was reappointed chief of staff.

Operative End Results in Advanced Gastric Cancer

At the February 19 meeting of the Société médicale des hôpitaux, a series of cases were reported by Dr. René Gutmann in which gastrectomy for advanced cancer had been performed from three to twelve years ago. The presence of severe anemia should not be regarded as a contraindication, because with the aid of transfusions and operations under local anesthesia many patients can be operated on now who were considered poor risks formerly. As the result of eighty-eight gastrectomies for cancer performed at the Gosset clinic up to 1935, thirteen patients died during the first year, twenty-seven were living after two to five years, eighteen more than five years, and seven more than eight years after the operation. Extensive filling defects on radiologic examination do not mean that early recurrence is more likely to take place than when only small filling defects are found. A small cancer can be accompanied by extensive liver metastases and be fixed, whereas an extensive cancer may be found perfectly mobile without liver metastases. The most important point to determine in considering operability is how much of the stomach is not involved and where the resection can be done. With the present development of radiologic technic much information can be given as to operability, but the final decision as to the latter depends on the results of exploration of the upper part of the abdomen at the time of operation. The presence of enlarged lymph nodes alone is not a contraindication, because only half of them were found to be cancerous on microscopic study of the resected stomach as Professor Gosset's clinic.

Conquest of Tropical Diseases

An instructive lecture on the sanitary organization of the Italian army during its recent campaign in Ethiopia was given at the Sorbonne (University of Paris) February 21 by Prof. Aldo Castellani. Although there are many plateaus (up to 4,200 feet above sea level) in Ethiopia, the major portion of the military operations took place in the lower sandy or marshy regions under tropical conditions. The small number of deaths (599 for 500,000 men) is without precedent in the history of wars in an equatorial climate. During the World War the Serbian army lost 25 per cent of its active troops from typhus; hence a mortality of 100,000 for 500,000 men would not have been considered excessive for the Italian army. The latter had

135 base hospitals, fifty-five mobile hospitals, eleven stationary and fifteen motorized (mobile) radiologic centers, four large ordinary diagnostic laboratories, twelve disinfection centers, six disinsectization stations and 136 water purification centers. Special attention was given to the care of the teeth of the soldiers at odontologic centers. In addition, there were eight air conditioned hospital ships. The medical personnel included 2,500 physicians and pharmacists, 15,000 hospital orderlies and 2,584 nurses. The prophylactic treatment of malaria was carried out by giving large doses (0.65 Gm.) of quinine to every soldier and controlling its absorption by urine examinations. There were 1,941 primary malarial infections, 1,095 relapses and twenty-three deaths from pernicious malaria among this number of cases. Only 429 cases of dysentery required hospitalization and there were no deaths. The majority of cases were of amebic origin.

As the result of the routine use of an associated (typhoid, parathyphoid and cholera) vaccine combined with boiling and constant surveillance of drinking water, not a single case of typhoid was observed. The same was true of typhus exanthematicus, although there are 20,000 cases annually among the Ethiopian natives. There were seventeen cases of recurrent fever and only one of variola. Insolation was fatal in seven of twenty-three cases. The ample distribution of lemons and fresh meat prevented diseases such as beriberi, pellagra and scurvy, which were prevalent among native soldiers and their families. There were only five cases of tetanus and none of plague or cholera. War injuries caused the death of 119 officers and 980 soldiers. The death of twenty-two officers and 577 soldiers was due to disease, drowning and bites of insects and snakes. These statistics are a glowing tribute to military medicine and especially to Professor Castellani, the leading spirit in this sanitary organization.

Diagnosis of Paroxysmal Hemoglobinuria

At the February 12 meeting of the Société médicale des hôpitaux, two cases were reported by Brule, Hillemand and Gaube which show the difficulties in making a diagnosis of paroxysmal hemoglobinuria. The first patient was a man, aged 24, who on Nov. 3, 1934, had suddenly voided urine that appeared to contain blood. Examination of the urine revealed a marked albuminuria, some leukocytes and granular casts, but no red cells. The following day an intense icterus appeared. He was seen for the first time by Brule and associates sixteen days later. A subicteric hue was still present, the urine showed only urobilin, and the blood urea was normal. He left the hospital apparently well but returned Aug. 15, 1935, stating that he had noticed clay-colored stools. The urine again showed only the presence of urobilin, the liver was slightly enlarged, the spleen was normal and there was a slight anemia. A tentative diagnosis of hepatitis or incomplete common duct obstruction having been made, an exploratory laparotomy was performed with negative results. The subicteric color persisted but the general condition was greatly improved following a cholecystostomy. The patient returned fifteen months later with the history of having had two attacks of jaundice associated with very dark colored urine, but without acholic stools. He was readmitted to the hospital, where examination of the urine showed a hemoglobinuria. The subicteric color persisted in the intervals between acute periods of hemolysis. The blood study of this patient was taken up following presentation of the second case. This patient was a man, aged 52, who gave the history of malaria and who had been pensioned for what had been diagnosed as chronic hematuric nephritis. Since 1925, following every exposure to cold, dark red urine was voided. A tentative diagnosis was made, on the basis of this history, of paroxysmal hemoglobinuria. During the interval between attacks when the patient was first seen by Brule and his associates, nothing abnormal was found. The malaria had been contracted during the war and there was a history of an attack of hemoglobinuric biliary fever. The tentative diagnosis of paroxysmal hemoglobinuria was confirmed (during the interval between attacks) by the positive Donath and Landsteiner reactions, which they consider pathognomonic when a patient is seen between the attacks of paroxysmal hemoglobinuria.

In the first of these two cases the blood study should have led to the diagnosis of hemolytic icterus because the two reactions cited appeared to be negative and the globular resistance seemed lowered. But in making these two reactions with all of the precautions so well investigated by Widal, Abrami and Brule, these reactions will always be found positive in hemoglobinuria during an interval between attacks. The globular fragility is of no importance; hence this notion ought to be revised. If one takes the precaution to keep the red corpuscles constantly at a temperature of 37 C., the globular resistance will always be found normal. Widal, Abrami and Brule have called attention to this detail for some time. In certain cases of hemoglobinuria, the slightest lowering of temperature suffices for the red corpuscles to be sedimented (fragilized) by the serum. These causes of error are not as well known as they deserve to be; hence all the reports of cases of paroxysmal hemoglobinuria with globular fragility and negative Donath and Landsteiner tests need to be revised. An essential difference exists between hemolysis with globular fragility as observed in true hemolytic icterus and the hemolysis due to action of the plasma as it is found in paroxysmal hemoglobinuria.

Infarct of the Mesentery and Small Intestine Due to Vascular Spasm

During the past two years, some instructive clinical and experimental observations have been reported by Professors Grégoire and Binet showing that in certain cases presenting the symptoms of acute occlusion of the mesenteric vessels, the underlying condition was of transitory character, the result of vascular constriction of vasomotor origin, which yielded to injections of epinephrine. At the February 3 meeting of the Académie de chirurgie Professor Grégoire added two analogous cases, observed respectively by Loverdos of Greece and by Asselin of Chateauroux, France.

In the Loverdos case a man, aged 68, had never been ill before. The onset was acute, with severe epigastric pain, nausea, small rapid pulse, rigid abdomen and symptoms of shock. The complete obstipation and the accompanying symptoms led to the diagnosis of acute intestinal obstruction. When the abdomen was opened a large amount of bloody serum escaped. One of the loops of small intestine presented a hemorrhagic appearance and the corresponding mesentery a greenish color. No observations were made as to whether a pulsation still existed in the mesenteric vessels of this loop. Some intravenous injections of 20 per cent sodium chloride and of epinephrine were followed by rapid recession of the symptoms of shock and recovery.

In Asselin's case a woman, aged 65, had acute abdominal symptoms that led to a diagnosis of intestinal obstruction, probably due to a neoplasm. Abdominal examination revealed a tender mass in the umbilical region. The clinical symptoms were those of severe shock, as in the recent case of Loverdos and the previously reported cases of Grégoire. A very fetid bloody fluid escaped when the abdomen was opened. Almost all of the small intestine was dark, almost greenish, and the corresponding mesentery presented a number of hemorrhagic foci resembling in some places gangrenous areas. There was marked congestion of the mesenteric vessels. The injection of 1 cc. of 1:1,000 epinephrine intravenously was followed almost immediately by the appearance of an almost normal color of the intestine and mesentery. The abdominal (parietal) incision was closed and 20 cc. of a hypertonic solution (20 per

cent) of sodium chloride given intravenously. The next day the symptoms of shock had disappeared, but colicky abdominal pain continued and the patient died four days after the operation. Necropsy was not obtained. In commenting on these two cases, Professor Grégoire stated that the sudden onset in a previously healthy person, as in the first case, differentiated it from that due to embolism or thrombosis of the mesenteric vessels. The weak, rapid pulse and marked shock that characterize an intestinal apoplexy are quite different from those of an incipient ileus due to occlusion of the mesenteric vessels. In the second case, operative intervention and the injection of epinephrine to combat the vascular spasm was too late to be of avail. Grégoire pleaded for abstention of the giving of morphine in acute abdominal cases. It relieves the pain but masks the underlying pathologic condition.

The Radiologic Appearance of Acute Pulmonary Edema

Only brief references can be found in textbooks on radiology to acute pulmonary edema. A case reported by Meldolesi, in which roentgenograms were made after a few hours, is the only one to be found in the literature; hence the report of another is of considerable interest. At the February 5 meeting of the Société médicale des hôpitaux, Marcel Lelong and Jean Bernard showed a number of films of a child 8 years of age suffering from acute pulmonary edema as a complication of acute nephritis. The pulmonary condition appeared suddenly at the onset of the renal conditions and was accompanied by hematuria, marked dyspnea and edema of the extremities. The acute nephritis was secondary to a severe throat infection. The chest films were taken not only at the height of the nephritis but also during the period of recession of the acute renal symptoms. The chief radiologic feature of the acute pulmonary edema was a generalized disappearance of the pulmonary transparency, less in the peripheral portions than in the region of the hilus. The juxtahilar area was especially opaque, the shadow being uniform. Parallel with the improvement of the general condition, the lung opacity cleared up first at the periphery and then toward the hilus on each side. The opacity can be best explained as due to the transudate in the alveoli.

In the discussion, Laubry stated that acute pulmonary edema in this case was not of cardiac but of peripheral origin; i. e., due to the acute nephritis and hence of vascular origin.

BERLIN

(From Our Regular Correspondent)

March 29, 1937.

The Increase in Diphtheria

The National Bureau of Health has published figures which indicate that the number of diphtheria cases increased from 64,138 in the year 1932 (9.9 per 10,000 of population) to 149,971 in 1936 (22.4 per 10,000 of population). The morbidity from diphtheria has more than doubled since 1932. The opinion that physicians often fail to diagnose the disease correctly in its early stages and consequently resort to administration of serum at too late a stage is not supported by the statistics. The rise in the number of fatalities does indicate, however, that the patient's parents are prone to call in the doctor only after the disease has gained too great headway. It is the official view of the National Health Bureau that a vast majority of the diphtheria victims in 1935 could with certainty have been saved if they had received proper medical attention in time and if antidiphtheritic serum had been speedily administered. Education of the public can be carried on chiefly through the consulting centers for mothers and the welfare centers for nurslings and small children, as well as by the distribution of the pamphlets on diphtheria that were issued by the National Health Bureau in 1935. If every case of diphtheria would receive specific treatment on the first or second day of illness, many fatalities would be avoided.

Congenital Dislocation of the Hip

Professor Gocht, Berlin, ordinarius in orthopedics, lectured on congenital dislocation of the hip before the Berlin Society of Pediatricians. He emphasized the importance of early diagnosis of any disturbance of growth in the iliac region. Serious alterations often ensue if a joint has been injured by reducing operations. Some damage is often unavoidable if the child is too old at the time of the reduction or if considerable displacement of the hip components has taken place. After early treatment of incipient or threatened luxation of the hip, the roentgen visualization ought not to reveal the slighest support for any pathologic process. Early diagnosis is facilitated by the following considerations: The leg in question appears somewhat too short; furthermore there will be a certain outward rotation, the movement of abduction is restricted, and the axial bearings of the leg pass by the acetabulum (in the middle of the ligamentum inguinale). The iliac region appears abnormally full. The most disparate types of femoral folds may indicate an incipient disease of the hip. There is normally no possibility of a displacement of the proximal end of the femur against the pelvis. Roentgen examination reveals that the caput femoris is abnormally small and that it stands apart from the acetabular fundus; the entire upper end of the femur is shifted up high against the region of the acetabulum (Y cartilage). The upper acetabular roof is steep. The earlier the diagnosis is established the more certain assurance of complete cure is vouchsafed, since all reduction maneuvers that have caused or might cause injury cease. Gocht recommends that the child patients' legs be kept in a spread position for some three months. In this way abnormal conditions are prevented and, in case an actual luxation exists, normal conditions of growth are again restored. In the discussion the physicians of the children's clinic pointed out that an asymmetry of the knee folds is a reliable early symptom, but this cannot be said of an asymmetry of the abductor folds.

Marriage Among Young Professional Men

At the suggestion of the expert advisers of the national ministry of the interior on matters of social and eugenic policy, a questionnaire survey of conditions among young professional men has been carried on in Saxony. Altogether 9,154 men submitted the filled-in blanks. Of these men 7,459 had completed their formal professional training. More than half of the men resided in the larger cities, the remainder in small provincial towns. Of the entire group, 57.4 per cent were unmarried. The most usual age at which the men married was the twenty-ninth year, whereas among the German population as a whole the most common age at time of marriage is 26. The peak of the birth rate for children of professional men also lay within the twenty-ninth year of the father's life. Of all young married professional men, that is, men under the age of 35, 51.9 per cent have no children. It is noteworthy that according to the information collected the thirty-fifth year was regarded as the crucial point of bachelorhood.

Early Recognition of Pulmonary Tuberculosis

A brochure for physicians on the early recognition of pulmonary tuberculosis has been published by the National Tuberculosis Committee. It ought not to be assumed, says the author, that a lung is free from tuberculous infection unless it has been so demonstrated by roentgen visualization. Therefore, roentgen examination should be made of (1) persons in whose ascendency there has been a tuberculous taint or who have been exposed to tuberculosis; (2) persons who have been under a physician's care for a disorder of the respiratory sys-

tem (and of the larynx in particular) that has persisted beyond three weeks; (3) persons who within the past few years have had repeatedly to seek medical attention on account of "colds," acute bronchitis and similar disturbances; (4) persons who have suffered from an influenza, pneumonia or other disease of the respiratory organs, which has followed an atypical course; (5) persons who have suffered from a dry or a humid pleurisy (such patients should be observed over several years and subjected to periodic roentgen examination); (6) persons who cough up blood (not blood film in the mucus but liquid blood, even if only a few drops); (7) any patient who presents any other than pulmonary tuberculosis; (8) patients who present erythema nodosum and phlyctenae; (9) any patient who presents an anal fistula or a periproctic abscess; (10) all diabetic patients as well as all patients who present stubborn and obscure gastro-enteric disorders; (11) patients who suffer from an otitis media purulenta chronica the cause of which is not clear, and (12) patients who would be described as healthy but who complain of a symptom that might in any conceivable way be related to tuberculous infection.

BUENOS AIRES

(From Our Regular Correspondent)

March 1, 1937.

An Outbreak of Psittacosis

An outbreak of psittacosis recently occurred in Buenos Aires and the city of Tandil. The first patient came from Tandil to Buenos Aires for treatment, where he died after eighteen days. Some relatives and friends of the patient in Buenos Aires contracted the disease. Nine cases were reported, with two deaths. The physicians in charge of the cases made a tentative diagnosis of bronchopneumonia or infectious influenza and asked for laboratory tests. Professor Sordelli of the Instituto Bacteriológico of Buenos Aires made a bacteriologic diagnosis of psittacosis. The blood serum of five patients was sent to Dr. S. P. Bedson of the London Hospital at London, who found it intensely positive for the complement fixation test. No epidemic in birds at Tandil preceded the outbreak of psittacosis.

Trypanosomiasis

Cases of Trypanosomiasis cruzi in man have been reported in Argentina since 1924 by Muhlens, Zuccarini, Dios, Cyarzabal and Salvador Mazza, who said that the infection followed a benign evolution and that the diagnosis was made accidentally during examination of the blood for malaria. Cecilio Romaña, however, reported fatal cases from Chaco of Santa Fe. Infection of the triatomas with Trypanosoma cruzi was verified in 1915 by Maggio and Rosenbusch. Trypanosoma infestation was found in 22 per cent of triatomas, which were included in a total number of 30,000 insects that were under examination for the infection. Trypanosomiasis in man, however, is rare. In the first three cases reported the parasites were found in the blood during examinations by the thick slide method in a total number of 15,000 blood samples. In 6,000 samples of human blood of persons living in Misiones the infection could not be found. The total number of cases of trypanosomiasis in man reported in Argentina is about seventy. White mice are more susceptible to the infection than any other animal. Dios and Verngreen in 1924 reported the results of inoculation with this infection in dementia paralytica patients who were inoculated with the blood of mice having experimental trypanosomiasis or with the blood of patients suffering from trypanosomiasis. The results of inoculation of trypanosomiasis in man were reported in 1924 by Muhlens and his collaborators in the *Revista del Instituto bacteriológico del departmento nacional de higiene.* Trypanosoma cruzi was found in the blood of four out of seven persons who were inoculated by the subcutaneous route. The patients showed no definite symptoms of the infection. In some cases there was fever. The presence of unilateral intense palpebral edema and conjunctival irritation found in some cases point, according to Romaña, to a conjunctival port of entry of the infection.

Pneumothorax Previous to Operation for Hydatid Cysts of Lung

Profs. Pedro Escudero, Ricardo Finochietto and José Arce advise the induction of artificial pneumothorax before doing an operation for hydatid cysts of the lung (*Semana méd.* **27**:517 [Oct. 14] 1920). Since Professor Arce has given much attention to developing the method, it has been called by some writers the Arce method (Landivar, A. F.: *Semana méd.* **44**:26 [Jan. 7] 1937). The subject was recently discussed before the Sociedad de Cirugía of Buenos Aires. Dr. Arce said that he has performed artificial pneumothorax as a preliminary step to operation in hydatid cyst of the lung in forty-two cases, with thirty-eight recoveries and four deaths. In thirty-three of the cases there was no infection. In thirty cases the recovery was uneventful.

New Faculty of Medicine

The structures now occupying the site of the new Faculty of Medicine were expropriated and will be demolished presently. The executive branch of the government has approved the project of constructing a nineteen story building at a cost of 12,000,000 pesos ($3,140,000). The headquarters of the class rooms of histology and odontology were moved to private residences in order to leave a fourth part of the building of the faculty ready for the beginning of the construction of the building of the ministry of justice and public education.

Pan-American Medical Association

A branch of the Pan-American Medical Association was recently established in Buenos Aires with the board of directors made up of Drs. G. Araoz Alfaro president, José Arce vice president, Valls secretary, and Houssay, Zambrini, Puente and Saralegui directing members.

Personal Items

The following have been given the degree of doctor honoris causa: B. A. Houssay of São Paulo, P. Belou of Rio de Janeiro and J. Arce of Rio de Janeiro and of the Temple University of Philadelphia.

Dr. Camilo Muniagurria, professor of pediatrics at the Faculty of Medicine of Rosario and ex-president of the fifth National Congress of Medicine, is dead.

Marriages

SHELLEY RICE GAINES, Jacksonville, Fla., to Miss Claudia Norton Barret of Charlotte, N. C., in Clearwater, Fla., January 26.

JAMES SEARCY SNOW, Ann Arbor, Mich., to Miss Mary Farley Moody Boyles of New York, February 13.

DAVID BRYAN SLOAN to Miss Christine Katherine Futchs, both of Wilmington, N. C., February 6.

WILLIAM PATTON MCDOWELL, Norfolk, Va., to Mrs. Loula Dean Rees, at Eufaula, Ala., January 23.

BERNARD GORDON SLIPAKOFF to Miss Miriam Harriet Kersline, both of Philadelphia, March 10.

JOHN ARTHUR SIEGLING to Miss Magdalen Keith Haskell, both of Charleston, S. C., March 10.

WILLARD F. GOFF to Miss Barbara Burwell, both of Seattle, at Port Blakeley, January 17.

THOMAS SCOTT MCDIARMID to Miss Audrey Dennison, both of Gadsden, Ala., January 31.

THOMAS J. STEWART to Miss Myrtle Tyer, both of Wynne, Ark., in December 1936.

FRED FALLS to Miss Anne Elmore, both of Lawndale, N. C., in February.

Deaths

David Alexander Stewart, Ninette, Manit., Canada; Manitoba Medical College, Winnipeg, 1906; member of the American Association for Thoracic Surgery and the American Clinical and Climatological Association; formerly associate professor of medicine (tuberculosis) at his alma mater; since 1910 member of the executive committee of the Canadian Tuberculosis Association and at one time its president; chairman of the public health committee, and past president of the Manitoba Medical Association; chairman of the committee of ethics of the Canadian Medical Association; superintendent of the Manitoba Sanatorium since its inception in 1908; in 1927 received the honorary degree of doctor of laws from the University of Manitoba, where he was a member of the board of governors; aged 63; died, February 16, at the Winnipeg (Manit.) General Hospital, of diverticulitis of the sigmoid.

Elbert Byron Swerdfeger, Denver; Denver Homeopathic College, 1904; practiced in Denver since 1904; member of the Colorado State Medical Society and the American Academy of Ophthalmology and Oto-Laryngology; fellow of the American College of Surgeons; assistant professor of otolaryngology, University of Colorado School of Medicine; past president and vice president of the state board of medical examiners; served during the World War; aged 60; otolaryngologist to the Children's, Denver General, Colorado General and St. Luke's hospitals, Colorado Christian Home, and State Home for Dependent Children, and the Presbyterian Hospital, where he died, February 9.

Mark M. O'Meara ✠ Kingston, N. Y.; Albany Medical College, 1903; member of the Associated Anesthetists of the United States and Canada; fellow of the American College of Surgeons; past president of the Ulster County Medical Society; chief of staff and surgeon to the Benedictine Hospital; member of the associate surgical staff of the City of Kingston Hospital; consultant to the Ulster County Tuberculosis Hospital, Kingston, and the Veterans Administration Facility, Ellenville; consulting surgeon to the Memorial Hospital of Greene County, Catskill; aged 62; died, February 6, of nephritis and chronic endocarditis.

James Ernest Stokes ✠ Salisbury, N. C.; University of Maryland School of Medicine, Baltimore, 1892; member of the Southern Surgical Association and its vice president in 1917; fellow of the American College of Surgeons; served during the World War; chief of staff and secretary to the board of trustees of the Rowan Memorial Hospital, formerly known as the Whitehead-Stokes Sanatorium, which he owned and which was also known at one time as the Salisbury Hospital, where he was chief of staff; aged 64; died, February 1, of angina pectoris.

John Thomas Axtell ✠ Newton, Kan.; Bellevue Hospital Medical College, New York, 1883; in 1913 member of the House of Delegates of the American Medical Association; past president of the Kansas Medical Society; member of the board of education, and for many years a member of the state board of health; fellow of the American College of Surgeons; secretary and past president of the Kansas State Hospital Association; consulting surgeon to the Axtell Christian Hospital; aged 80; died, February 20, in Inglewood, Calif.

William Jackson Young ✠ Louisville, Ky.; Kentucky University Medical Department, Louisville, 1903; formerly clinical professor of dermatology and syphilology at the University of Louisville School of Medicine; fellow of the American College of Physicians; on the staffs of St. Joseph's Infirmary, St. Anthony's Hospital, Jewish Hospital, Norton Memorial Infirmary and the Kosair Crippled Children's Hospital; aged 55; died, February 7, of heart disease.

Charles James Wetherbee, Twin Falls, Idaho; Detroit College of Medicine, 1901; member of the Idaho State Medical Association, American Academy of Ophthalmology and Oto-Laryngology and the Pacific Coast Oto-Ophthalmological Society; fellow of the American College of Surgeons; at one time mayor of Buhl; on the staff of the Twin Falls County General Hospital; aged 67; died, February 9, of coronary occlusion.

Frank Stanley Wasielewski ✠ Milwaukee; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1899; member and chairman of the board of trustees of the Johnston Emergency Hospital; member of the staff of St. Luke's Hospital; aged 62; died, February 3, in the Milwaukee Hospital, of carcinoma of the esophagus.

William Radcliffe Sitler, Suffern, N. Y.; University of Pennsylvania Department of Medicine, Philadelphia, 1875; member of the Medical Society of the State of New York; health officer of the village of Suffern and town of Ramapo for many years; aged 83; died, February 5, in the Tuxedo Memorial Hospital, Tuxedo Park, of diabetes mellitus and cerebral hemorrhage.

Walter Scott Reed, Long Branch, N. J.; University and Bellevue Hospital Medical College, New York, 1900; also a druggist; formerly mayor of Long Branch, and member of the state legislature; for many years member of the board of education and school physician; on the staff of the Dr. E. C. Hazard Hospital; aged 72; died, February 28, of carcinoma of the prostate.

J. Swan Taylor, Johnstown, Pa.; Eclectic Medical Institute, Cincinnati, 1881; member of the Medical Society of the State of Pennsylvania; veteran of the Spanish-American War; for many years physician for the city schools, and physician and surgeon for the Pennsylvania Railroad; aged 78; died, February 12, of bronchopneumonia.

Amos Ellsworth Wyley Stueve, Cincinnati; Miami Medical College, 1909; member of the Ohio State Medical Association; on the staff of St. Francis Hospital for Incurables; for many years medical examiner for the Metropolitan Life Insurance Company; aged 51; died, February 16, of myocarditis.

Robert Pillow Jr. ✠ Columbia, Tenn.; Vanderbilt University School of Medicine, Nashville, 1914; past president of the Maury County Medical Society; on the staff of the King's Daughters' Hospital; health officer of Columbia; served during the World War; aged 50; died, February 13, of heart disease.

Henry B. Swartwout, Port Jervis, N. Y.; Bellevue Hospital Medical College, New York, 1885; member of the Medical Society of the State of New York; formerly mayor and president of the village; on the staff of St. Francis Hospital; aged 76; died, February 5, of myocarditis and influenza.

Samuel Lord Smith, Binghamton, N. Y.; State University of Iowa College of Medicine, Iowa City, 1882; member of the Medical Society of the State of New York; also a pharmacist; formerly city councilman and mayor of Binghamton; aged 78; died, February 15, of chronic myocarditis.

Reid Patterson, Charlotte, N. C.; North Carolina Medical College, Charlotte, 1912; member of the Medical Society of the State of North Carolina; on the staffs of the Mercy and St. Peter's hospitals; aged 48; died suddenly, February 16, in Atlanta, Ga., of coronary occlusion.

Joseph Rieger ✠ Dunkirk, N. Y.; Chicago Homeopathic Medical College, 1893; past president of the Chautauqua County Medical Society; member of the local board of health; on the staff of the Brooks Memorial Hospital; aged 71; died, February 4, of bronchopneumonia.

Abbott Revere Walker, Frostburg, Md.; Howard University College of Medicine, Washington, D. C., 1902; member of the Medical and Chirurgical Faculty of Maryland; was local health officer for many years; aged 66; died suddenly, February 1, of a cerebral hemorrhage.

Gustave Llewellyn Stoehr ✠ London Mills, Ill.; State University of Iowa College of Medicine, Iowa City, 1909; also a pharmacist; past president of the Fulton County Medical Society; aged 59; died, February 1, in the Methodist Hospital, Peoria, of pneumonia.

Seelye William Little, Rochester, N. Y.; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1891; author of a book entitled "Nephritis"; aged 69; died, February 27, of coronary occlusion and cerebral hemorrhage.

George Washington Russell, Waterbury, Conn.; Bellevue Hospital Medical College, New York, 1895; for many years president of the Waterbury Medical Association; aged 64; on the staff of St. Mary's Hospital, where he died, February 4, of pneumonia.

Thomas De Witte Peters, Flora, Ind.; Indiana Medical College, School of Medicine of Purdue University, Indianapolis, 1906; member of the Indiana State Medical Association; served during the World War; aged 51; died, February 11, of heart disease.

Ernst Zimmermann, Quincy, Ill.; Washington University School of Medicine, St. Louis, 1897; fellow of the American College of Surgeons; aged 60; on the staff of the Blessing Hospital, where he died, February 10, of cardiovascular renal disease.

James Bernard Hackley, Purcellville, Va.; University of the South Medical Department, Sewanee, Tenn., 1901; member of the Medical Society of Virginia; aged 60; died, February 4, in the Loudoun County Hospital, Leesburg, of mesenteric thrombosis.

Henry Burnham Savage, New York; Long Island College Hospital, Brooklyn, 1875; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1877; aged 83; died, February 1, in Fort Worth, Texas, of pneumonia.

Robert Freeman Oliver, Bradford, N. H.; University of Vermont College of Medicine, Burlington, 1890; member of the New Hampshire Medical Society; aged 74; died, February 5, of coronary thrombosis and chronic nephritis.

Frederick John Watson, Chicago; Rush Medical College, Chicago, 1893; member of the Illinois State Medical Society; aged 67; died, February 2, in the Presbyterian Hospital, following an operation for carcinoma of the colon.

Ralph Emerson Youmans ⊕ Harrodsburg, Ky.; Kansas City (Mo.) University of Physicians and Surgeons, 1921; aged 39; died, February 15, at the Good Samaritan Hospital, Lexington, of renal calculus in solitary kidney.

Edward Arnold Schilz ⊕ Grand Ledge, Mich.; Michigan College of Medicine and Surgery, Detroit, 1897; served during the World War; member of the state board of health; aged 64; died, February 1, of angina pectoris.

John Baston Acton, Eubank, Ky.; Louisville and Hospital Medical College, 1908; member of the Kentucky State Medical Association; formerly postmaster; aged 56; was found dead, February 26, of cerebral hemorrhage.

Phillip Henry Sigrist, New Philadelphia, Ohio; Cleveland Medical College, 1892; formerly school superintendent and county school examiner; aged 73; died, February 7, of arteriosclerosis and cerebral hemorrhage.

Helen Margaret Reinherr, Pittsburgh; University of Pittsburgh School of Medicine, 1935; aged 26; resident physician to the Allentown (Pa.) State Hospital, where she died, February 13, of acute cyanide poisoning.

Thomas Joseph Fenton, Spadra, Calif.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1906; aged 58; died, February 10, in Los Angeles, of Ludwig's angina.

William George Beattie, Tracy, Calif.; College of Physicians and Surgeons of San Francisco, 1900; aged 71; died, February 14, in the Dameron Hospital, Stockton, of chronic myocarditis and hypernephroma.

George F. Thomas, Peebles, Ohio; Medical College of Ohio, Cincinnati, 1888; member of the Ohio State Medical Association; for many years bank president; aged 80; died, February 20, of acute hepatitis.

D. Euclide Rainville, Boulder, Mont.; M.B., Laval University Faculty of Medicine, Quebec, 1888, and M.D., 1890; aged 71; died, February 28, of bilateral nephrolithiasis, acute urinary retention and uremia.

Charles Batty Small, Saratoga Springs, N. Y.; New York Homeopathic Medical College, 1883; formerly coroner, health officer and city physician; aged 76; died, February 7, of angina pectoris and arteriosclerosis.

Henry Harry Schiller, New York; New York Homeopathic Medical College and Flower Hospital, New York, 1935; aged 26; died, February 17, in the Mount Sinai Hospital, of sarcomatosis.

William Edgar Callison ⊕ Winchester, Ind.; Yale University School of Medicine, New Haven, 1927; on the staff of the Randolph County Hospital; aged 37; died, February 26, of pneumonia.

Llewellyn Bert Raymond Smith ⊕ Jeannette, Pa.; University of the City of New York Medical Department, 1895; aged 67; died, February 14, of myocarditis and interstitial nephritis.

Wilfred Elwell Pearce, Boynton, Okla.; Epworth College of Medicine, Oklahoma City, 1910; also a pharmacist; aged 59; died, February 17, in a hospital at Wichita, Kan., of arteriosclerosis.

Francis Michael O'Donnell, Newton, Mass.; Harvard University Medical School, Boston, 1887; member of the Massachusetts Medical Society; aged 73; died, February 10, of myocarditis.

Osmond Peter Thompson, Chicago; College of Medicine and Surgery, Chicago, 1909; aged 63; died, February 28, in the Illinois Masonic Hospital, of gastric ulcer and hemorrhage.

Henry Herbert Smith ⊕ New Haven, Conn.; Jefferson Medical College of Philadelphia, 1877; aged 82; died, February 23, of arteriosclerosis and bronchopneumonia.

George Wilson Todd, New York; Columbia University College of Physicians and Surgeons, New York, 1901; aged 70; was found dead, February 20.

Bureau of Investigation

RE-DUCE-OIDS

Serious, and Even Fatal, Results Attributed to Reducing Nostrum by Physicians

During the past several years the Bureau of Investigation has received innumerable inquiries from physicians and laymen regarding a reducing nostrum euphemistically named "Re-Duce-Oids." A few examples follow:

An Illinois physician writes:

"I am seeking information about a nostrum which is known as Re-Duce-Oids, made by Scientific Laboratories of America and sold in Chicago by Walgreen drug stores. A young woman came into my office this morning with swollen, itching hands and felt very faint and dizzy after taking thirty-three out of a bottle of forty of these, according to directions . . ."

From an Indiana physician:

"Have you any information regarding Re-Duce-Oids? These are reducing capsules made by the Scientific Laboratories of America, San Francisco. Recently we had a post-mortem examination upon a patient

REDUCE
Controllable FAT
"I LOST 55 lbs. of FAT"
writes Michigan Lady
Look-Feel-like a NEW PERSON!
● Is fat making your life miserable? Many other women who used to sit back ashamed and uncomfortable because people laughed and called them "Fatty" have now found a new joy in living after freeing themselves from the burden and embarrassment of overweight. Don't let controllable FAT rob you of happiness!
READ WHAT THESE WOMEN WRITE:
Mrs. L. R. Schulze, 721 S. Pleasant St., Jackson, Mich., writes: "After being overweight almost all my life, I reduced 55 lbs., with RE-DUCE-OIDS."
Gladysse L. Ryer, Registered Nurse, Dayton, O., writes: "Lost 47 lbs., though I did not diet."
Mrs. J. Fulfs, Honey Creek, Iowa, writes: "Lost 34 lbs. RE-DUCE-OIDS are pleasant to take."
Mrs. V. Haskett, San Francisco Graduate Nurse, writes: "I took RE-DUCE-OIDS according to directions and was soon delighted to find my weight steadily decreasing until I lost 27 lbs. I worked every day and felt fine all the time. I can recommend RE-DUCE-OIDS."
RE-DUCE-OIDS are not a new experiment—they have been used by thousands of fat people. Sold for 22 years. Pleasant, easy to take.
IMPORTANT—RE DUCE-OIDS positively DO NOT contain dinitrophenol.
FAT GOES ... or Money Back

who was admitted with a very high temperature, convulsions, and a history of having taken an unknown quantity of these reducing capsules. She died a few hours after admission, and post-mortem examination revealed little except a marked degeneration of the heart muscle. Analysis of the liver, stomach contents and kidney was made for heavy metals and dinitrophenol. We have done several incomplete assays on some of the material that has been found in the reducing capsules, but as yet have been unable to connect the death of the patient with any of the material found. We hope that perhaps your department has done a complete assay and can give us information regarding the contents of these capsules."

From a Nebraska physician:

"I have just seen a patient who has been taking a popular reducing remedy with rather disastrous effects, and should like to know if you have investigated this substance and know anything about it. Whatever you can tell me will be appreciated. It is called Re-Duce-Oids. The effect suggests thyroid. There is nothing on the label to tell what it contains. It is very extensively advertised on the radio."

From a Michigan physician:

"Do you have information as to the ingredients of Re-Duce-Oid capsules, made by Scientific Laboratories of America? One of my obese patients took eight bottles of these over a period of a year, then became very weak and developed a pulse rate of 140-160, gradually became delirious and died. She had profuse sweats and for a time we thought she had developed an acute thyrotoxicosis."

From a New York chemical laboratory:

"We are wondering whether you have the analysis of the chemicals named Re-Duce-Oids, manufactured by the Scientific Laboratories of America. These capsules have been called to our attention by one of our physicians as causing eruptions and blotches on the skin of one of the patients. They were advised to take these pills for reducing by a pharmacist. It would lower the cost of my examination of these pills to the doctor if you have some information already on hand, therefore I would appreciate any cooperation that you may offer."

Re-Duce-Oids have been advertised to the public as an easy and pleasant method of removing excess weight. The copy has followed the usual stereotyped formula: a svelte female clad in step-ins and brassière, in what the copywriter no doubt considered a graceful pose calls attention to such slogans as "Reduce controllable fat," "Is fat making your life miserable? Many other women who used to sit back ashamed and uncomfortable because people laughed [they used to laugh when somebody or other sat down at the piano] and called them 'Fatty' have now found a new joy in living after freeing themselves from the burden and embarrassment of overweight. Don't let controllable fat rob you of happiness!"

The advertisements in periodicals were supplemented by pamphlets on "How to Reduce." In one such pamphlet put out by the Scientific Laboratories of America, 746 Sansome Street, San Francisco, the exploiter states:

"Re-Duce-Oids, in the true sense of the word, are not a medicine."

Just what constitutes a medicine in the true sense is not explained. Re-Duce-Oids are represented to the obese as

"a gland food put up in a capsule form . . . they provide a balanced food for the underfed glands which cause the fat condition."

Just which glands are provided with this "balanced food" is cleverly left to the reader's imagination. In addition to the periodical advertisements and pamphlets, the exploiter sent a form letter of the "Dear Friend" type to prospective purchasers.

Laughable indeed was the appeal:

"Do not accept any preparation in place of Re-Duce-Oids, for Re-Duce-Oids is the only reducing preparation that carries the certified Seal of Approval of the Scientific Laboratories of America."

for the American Medicinal Products, whose name appears on the trade package, is at the same address as the Scientific Laboratories of America—746 Sansome Street, San Francisco.

Once the victim has parted with his money for Re-Duce-Oids, he learns from the directions inside the trade package that

"we do not claim that Re-Duce-Oids will reduce everyone; they are intended for controllable fat."

The victim also learns that

"anyone having tuberculosis, diabetes or exophthalmic goiter"

should not take Re-Duce-Oids.

The exploiter also has a laxative pill to sell—"Alax"—which is recommended to Re-Duce-Oids users as a means of accomplishing the best results.

The A. M. A. Chemical Laboratory has recently examined a specimen of Re-Duce-Oids and reported as follows:

LABORATORY REPORT

"One original package of Re-Duce-Oids (American Medicinal Products, Inc., San Francisco, Calif.) was submitted by the Bureau of Investigation to the A. M. A. Chemical Laboratory for examination.

"Statements on the label were as follows:

40
Re-Duce-Oids
Capsules
See Directions Reverse side
Genuine
Price $2.00
American Medicinal Products, Inc.
San Francisco, Calif.

"The directions given were to take one capsule daily for six days, then one capsule two times a day for six days, then one capsule three times a day with all following bottles.

"The package contained forty red-colored capsules which, with the contents, weighed approximately 0.35 Gm. each. The contents of each capsule averaged 0.3 Gm. Examination of the contents showed the presence of a yellowish amorphous substance possessing a slightly bitter taste, and odor indicative of desiccated glandular substance.

"Qualitative tests indicated the presence of sodium, potassium, organic material, lactose, iodides, and small amounts of phenolphthalein and chlorides. Such substances as dinitrophenol, bladderwrack and starch were not found. Spectrographic analysis showed the presence of sodium, potassium, and a trace of calcium.

"The product was submitted for examination to a pharmacognosist, who reported the presence of protein and cellular material as desiccated glandular substance. Vegetable tissue was not found.

"The capsules apparently consisted of gelatin with a phthalein coloring material.

"Quantitative determinations on the powder yielded the following:

"Loss in weight (100 C.)	5.14	per cent
Ash	1.74	" "
Sulfate ash	10.58	" "
Total iodine (I)	13.2	" "
Potassium (K^+)	3.64	" "
Sodium (Na^+)	0.8	" "
Nitrogen (N)	2.08	" "
Reducing substances (as lactose)	74.7	" "
Phenolphthalein	0.5	" "
Water insoluble material	11.97	" "

"From the foregoing, it is concluded that the product consists largely of desiccated glandular material, probably thyroid (approximately 12 per cent), potassium iodide (approximately 16 per cent) and phenolphthalein (approximately 0.5 per cent), with lactose as the excipient. This may be calculated to approximately 0.036 Gm. (0.55 grain) of glandular material; approximately 0.05 Gm. (0.77 grain) of potassium iodide; and approximately 0.0015 Gm. (0.023 grain) of phenolphthalein in the contents of each capsule. The dose after two weeks (three capsules a day) will contain approximately 0.11 Gm. (1.65 grains) of glandular material; approximately 0.15 Gm. (2.31 grains) of potassium iodide; and approximately 0.0045 Gm. (0.07 grain) of phenolphthalein."

Re-Duce-Oids, when stripped of the folderol of the enterprising copywriter, appears to be just another obesity nostrum depending essentially on thyroid, potassium iodide and a small amount of phenolphthalein. In addition, there is the usual nostrum trick of taking another product—one of the firm's proprietaries, to be sure—for insuring sufficient laxative action. The dangers of uncontrolled administration of such drugs have been mentioned repeatedly in these columns.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

PURPURA HAEMORRHAGICA—COUNTING BLOOD PLATELETS

To the Editor:—I have had under my care a girl, aged 4, who suffers from what I have diagnosed purpura haemorrhagica. The clotting time is normal but the bleeding time is greatly prolonged. A wound will bleed for from twenty to thirty minutes. I have performed no platelet count as yet but intend to do so. The child has been given six direct blood transfusions to date. She has been given prescriptions for vitamins and iron and ammonium citrate in large doses. This child has been ill for five months. To date there has been no tendency to natural recovery. Is there any treatment that is worth trying except for the operative splenectomy? What method of blood platelet counting do you consider best for one who has not been accustomed to this method? Please omit name.

M.D., Idaho.

ANSWER.—There are a number of therapeutic measures besides splenectomy which have been used with apparent success in idiopathic purpura haemorrhagica. It is difficult to evaluate definitely the various methods of treatment because the disease is often characterized by spontaneous remissions of symptoms. In persistent cases, blood transfusions may be necessary not only for benefit of transfused platelets but also for relief of anemia. Intramuscular injection of whole blood or sterile human serum in 20 cc. amounts may result in a thrombocytosis and amelioration of symptoms. A high vitamin, protein and fat diet, along with liberal use of calcium orally or given intravenously and intramuscularly (10 cc. in 10 per cent solution) is advised for supportive treatment. Snake venom given intradermally, as advised by Peck, has been used successfully by Greenwald in children. The number of cases treated in this manner is too few to afford a basis for saying anything definite about the ultimate success of this form of therapy. Greenwald used diluted moccasin snake venom (obtainable through Lederle's Laboratories). The initial dose was 0.1 cc. of a 1:3,000 solution in physiologic solution of sodium chloride administered intradermally; this was gradually increased to 0.4 cc. in two cases and to 0.6 cc. in the third

case. The injections were given every other day at first and later every third or fourth day; the duration of the treatment varied from four weeks to five months. Active bleeding stopped in the three patients after the third or fourth injection.

Recently Rudisill gave a very optimistic report (THE JOURNAL, Dec. 26, 1936, p. 2119) on the successful treatment of essential thrombopenic purpura by the use of roentgen rays over the spleen. While the opinion as to the uniform success of this procedure is not shared by other investigators, it is worthy of trial. The following technic was advised by Rudisill: Voltage, 200 kilovolt peak; tube current 4 milliamperes; filter 0.5 mm. of copper plus 1 mm. of aluminum; roentgens per treatment 200 measured in air; roentgens per minute, 10; area exposed, anteriorly over the spleen; size of the field, 20 cm. circular.

It is important to remember that thrombocytopenic purpura may occasionally be a symptom of some other disorder, as leukemia, myelophthisic and aplastic anemias, infection, chemical poisoning or allergy (symptomatic purpura haemorrhagica). These should be ruled out.

One of the difficulties with platelet counting in clinical practice is that the more accurate and reliable methods are not sufficiently simple and the more simple methods are not sufficiently accurate and reliable. The one method that is relatively simple and avoids many of the inaccuracies common to a great many recommended is that of Olef (*J. Lab. & Clin. Med.* 20:416 [Feb.] 1935). His procedure is as follows:

The hand is immersed in warm water and opened and closed for exercise to produce active hyperemia and facilitate a rapid flow of blood when the finger is punctured. The palmar surface of the finger is cleansed with soap and water and dried with alcohol and ether or acetone. A puncture is made sufficiently deep to obtain a fairly free flow of blood without applying pressure. A drop or two of the blood is quickly wiped away. A drop of the diluting fluid is placed over the puncture wound before the blood reaches the surface of the skin and the hand is quickly turned palmar side down. After a sufficiently large drop has escaped, the entire mixture is applied to the surface of 3 or 4 drops of diluting fluid contained in a paraffin cup. A suitable cup is prepared by melting the center of a small cube of paraffin with the heated end of a glass rod. The contents of the cup are then stirred with a wooden applicator, the end of which is coated with paraffin. The mixture is allowed to stand for a minute or two, stirred again and then is transferred by means of a clean paraffin-coated applicator to a scrupulously clean glass slide in three drops. A carefully cleaned cover slip is placed over each drop and after the preparations have been allowed to stand for from ten to fifteen minutes a relative platelet count is made, the oil immersion lens being used. In such a preparation the platelets appear as clear, isolated, highly refractile bodies with numerous spinelike processes projecting from their periphery and are either motionless or exhibit brownian movement. The platelets and erythrocytes are both counted in fields taken at random in different parts of the preparation until 1,000 red cells have been seen. A red cell count is done in the usual manner, and the absolute number of platelets per cubic millimeter is determined. This is calculated from the following formula:

$$\frac{\text{Patient's red count}}{1{,}000} \times \text{number of platelets counted equals number of platelets in 1 cu. mm. of blood.}$$

Normal counts range from about 400,000 to 600,000 by this method.

The author empirically found the following diluting fluid to be most satisfactory:

	Gm. or Cc.
Sodium metaphosphate (Howe and French, Boston)	1.0
Sodium chloride	0.5
Dextrose	0.1
Distilled water	100.0

Keep in a cold place.

If this solution is not available, other platelet counting solutions, such as 14 per cent magnesium sulfate, 2 per cent sodium citrate in 0.9 per cent sodium chloride, or the solution of Rees and Ecker may be used but the results are not quite as satisfactory.

PROTECTIVE MASKS AGAINST INDUSTRIAL POISONS

To the Editor:—Kindly advise me regarding an efficient mask to be worn by a worker in the dry cell battery manufacturing industry. The materials used in this industry are graphite, manganese and sal ammoniac.

J. R. LONDON, M.D., Passaic, N. J.

ANSWER.—No respirators worn by workmen are continuously efficient in the absence of intelligent servicing, fitting, and so on. It is believed that, among other respirators, those manufactured by Willson Products, Inc., of Reading, Pa. (No. 400 or No. 400L) and the Mines Safety Appliance Company, Pittsburgh (No. C-R 8393), will prove to be suitable. Correspondence with either of these firms may be expected to provide exact information.

PURIFIED PROTEIN DERIVATIVE IN TUBERCULOSIS TESTING

To the Editor:—There has been some controversy among the physicians concerning the value of purified protein derivative for tuberculosis testing of school children. This is being used according to methods outlined by the Pennsylvania Tuberculosis Society. The positive reactions are all given physical examinations and the chests are roentgenographed. I should like to know the degree of accuracy and the value of such testing. I am anxious to get the best possible advice regarding this test, as through some of our physicians it has gotten into the columns of the daily newspapers and is creating considerable comment. I should like to have something definite from you so that I can present it at the next meeting of our county society and try to get it straight before the public. Please omit name.

M.D., Pennsylvania.

ANSWER.—Purified protein derivative, as well as old tuberculin, employed in the testing of school children, is a specific test for determining the presence of the primary tuberculosis complex in the child's body. The test is dependent on the fact that, when the primary complex is developing, the tissues of the body become sensitized to the protein of the tubercle bacillus. As long as the tubercle bacilli in the body remain alive, the sensitiveness of the tissues is maintained, and as long as this sensitiveness is present, tuberculin or purified protein derivative introduced into the layers of the skin results in a reaction at the site of administration which consists of an area of edema or induration, usually surrounded by an area of hyperemia. As far as is known, there is nothing in nature which is taken into the human body that is capable of sensitizing the tissues to tuberculoprotein except tubercle bacilli themselves. The bacilli of the bovine type will sensitize the tissues of the human body just as truly as those of the human type. The test therefore, is one for sensitization of the tissues, which is brought about by the presence of tubercle formation in the body. Therefore, the test is highly diagnostic of the presence of tubercles.

Not long ago it was said that approximately 90 per cent of the children of high school age had been infected with tubercle bacilli and therefore were positive reactors to the tuberculin test. However, in recent years through pasteurization of dairy products, eradication of tuberculosis among cattle herds, and isolation and treatment of large numbers of persons with tuberculosis in communicable form, infants and children have been so protected that large numbers of them have grown to adult life without becoming infected. Indeed, in many states less than 15 per cent of school children, including those of high school age, react positively to tuberculin. In Pennsylvania only about 20 per cent of the school children have been infected, except in certain sections of cities, such as Philadelphia. Obviously, therefore, the administration of the harmless and inexpensive tuberculin test almost immediately eliminates 80 per cent of the school children of Pennsylvania as far as further examination for tuberculosis is concerned. However, the fact that a child's tuberculin test is negative today does not necessarily mean that it will be negative in six months or a year; therefore, the 80 per cent who react negatively on first being tested should be retested annually as long as they remain negative.

When tubercle bacilli first find lodgment in the body, there usually develops what is known as a primary complex. This consists of the disease which develops at the site of lodgment, as well as that caused by bacilli carried from the original lesion by way of the lymphatics to the regional lymph nodes, where they are imprisoned.

The positive tuberculin reaction provides two significant facts concerning the individual, the first being that the positive reactor has at some time been in contact, either directly or indirectly, with a person or an animal suffering from tuberculosis or acting as a carrier or spreader of tubercle bacilli. This information is of extreme value, since many persons who transmit tubercle bacilli to others are not ill and the disease is not suspected. When a school child is found to react positively to the test, all the close associates should be carefully examined in an attempt to find the source. When this is done, not infrequently the healthy appearing individual in whom disease has never been suspected may be found to be the carrier. In such cases the disease at the source may not have advanced beyond the point at which it can be treated successfully. By finding such a case, therefore, a double service is rendered: First, the child may be protected against further exposure; second, the person with the communicable tuberculosis may be treated successfully in a reasonably short period of time.

The second fact of great value is that every child who reacts positively to the tuberculin test has or is developing the primary tuberculosis complex somewhere in the body. There is no particular advantage in searching for the location of this complex during life, for it is frequently located in parts of the body that do not lend themselves to special phases of the examination, such as the x-ray film. Moreover, the areas of disease which constitute the complex may not be sufficiently large so that the physical examination or the x-ray film will bring them to light. However, the fact has been well established that children who have the primary complex are far more likely to fall ill from clinical tuberculosis as adolescence approaches and thereafter than those who have not developed such a complex during childhood. Therefore, knowing through the positive tuberculin reaction that such a complex exists is sufficient reason to recommend that every child who reacts to the tuberculin test in a positive manner be most carefully examined, including the use of the x-ray film, as adolescence approaches, and if no clinical disease is detected the examination should be repeated at least annually. The fact has been reasonably well established that, after the reinfection or clinical type of tuberculosis has produced lesions sufficiently large to cast shadows which can be visualized on the x-ray film, there is a period of two or three years before symptoms appear. However, when symptoms do appear, approximately 80 per cent of such lesions are in the moderately or far advanced stage. They are not only disseminating tubercle bacilli but are difficult to treat successfully, whereas during the early stages of the disease, when it can be detected among positive tuberculin reactors by serial x-ray film examination, it may be treated successfully before bacilli are being disseminated to others and before symptoms make their appearance. The program in effect now in so many places, including Pennsylvania, consists, first, of administering the tuberculin test to as many school children as possible; second, seeking the sources or the persons who infected the children reacting positively and treating or isolating such persons; third, keeping all infected children under very close observation, including annual physical and x-ray film examinations, as the period of adolescence approaches and thereafter, and treating all who develop lesions of clinical significance at the earliest possible moment. This program, when carried to its logical conclusion, is more effective in tuberculosis control than any or all other methods combined.

WASSERMANN FASTNESS AND MARRIAGE IN SYPHILIS

To the Editor:—In March 1936, a woman, aged 24, single, was treated for intractable vomiting, lasting about three weeks, which was stopped by rectal administration of bromides and liquids. Physical examination revealed nothing of note, and a blood Wassermann test taken after recovery showed Kolmer's antigen strongly positive and the precipitin test definitely positive. Treatment was started with sodium bismuth thioglycollate, 3 grains (0.2 Gm.) twice weekly. Twelve injections of the latter were followed by eight intramuscular injections of sulfarsphenamine, each 0.3 Gm., following which a moderately severe exfoliative dermatitis occurred, clearing up on sodium thiosulfate. Neoarsphenamine could not be given because of small veins. Until the present the patient has had, in addition, ten intramuscular injections of bismuth salicylate at weekly intervals, four weeks of self-advised rest, followed by six weeks of mercury rubs with potassium iodide, and a second rest of six weeks. She returned, and now a Wassermann test by another laboratory shows the Noguchi antigen 2 plus and the cholesterinized antigen 3 plus. She feels well, has gained 10 pounds (4.5 Kg.) and shows no signs of involvement of the nervous or cardiovascular system. A spinal fluid examination has not been done because of unwillingness on the part of the patient. I plan to give her another twelve injections of sodium bismuth thioglycollate followed by six more weeks of mercury rubs and potassium iodide and then advise three courses a year of a bismuth compound with rest periods between for the next two years. Is this a case of a Wassermann-fast patient? When may this patient safely marry? Has treatment been adequate, excepting for a spinal fluid survey?

M.D., Louisiana.

ANSWER.—It is too early in the treatment course to say whether this patient is going to be Wassermann fast, and the data obtained to date are not sufficient to warrant such a diagnosis. It is necessary to do a spinal fluid test, a cardiovascular examination and a careful neurologic examination before it may be said that she is Wassermann fast. The term "Wassermann fastness" has become popular because it apparently is an easy means of explaining to a patient why the blood test remains positive, at the same time being consoling to the physician. This is an unfortunate situation, because Wassermann fastness is not a diagnosis but merely an accumulation of serologic reports. The significant point about Wassermann fastness is that it may occur in any manifestation of syphilis, and it may have much significance or may be of no concern at all. For example, Wassermann fastness in a patient with early syphilis who has been well treated suggests that there is an active focus of syphilis somewhere, in either the nervous or the cardiovascular system, and that effort should be made to demonstrate it and treat it accordingly. Likewise, a persistently positive Wassermann reaction in association with a positive spinal fluid is indicative of a resistant type of infection in the nervous system. On the other hand, if a diagnosis of latency is warranted, and is confirmed by repeated examinations during the prolonged treatment course, the positive Wassermann reaction that has not been influenced by the treatment course may have no significance. The positive test does not necessarily mean that the syphilis is active or that the patient is infectious.

Accordingly, when Wassermann fastness is suspected, a careful search should be made for its explanation in the nervous system and viscera, and if active evidence of syphilis is found, treatment directed to the complication, perhaps of a special type, is indicated. However, if no complications are elicited, it is not necessary to continue to treat the positive serologic test indefinitely.

This patient should not marry until she has had a negative blood and spinal fluid test for three years after treatment has been stopped. If she marries and becomes pregnant, treatment for syphilis should be started early in the pregnancy even though the serologic tests are negative. The treatment as suggested should be carried out for the next three years.

SENSATIONS IN MOUTH AND NEUROSIS AFTER TOOTH EXTRACTION

To the Editor:—A man, aged 72, complained that about six weeks following extraction of all his teeth in 1930 his gums began to feel stiff and numb; his tongue felt large, especially after waking, and his mouth dry (he was unable to expectorate). He also complained of pains and prickly sensations in the arms and hands and the legs and feet, with swelling of the feet. The latter I have never seen. A prostatectomy for a benign growth of the prostate was followed by bladder irrigations with mild protein silver and an Indian oil (?) for a while. Both testicles were badly swollen in the hospital at that time but now one is hard and the size of a walnut, while the other is apparently normal. Last summer he took electrical treatment for the legs and feet, with no relief as I intimated to him, but early last fall I found he was taking barbituric acid derivatives, which I had him stop and at present he does not complain of painful extremities. He gives the legs and feet hot soaks at night now. Last summer artificial teeth were advised. After several months he stated that if he took the plates out his mouth felt numb and contracted, causing some difficulty in opening his mouth. When the plates are replaced, the mouth feels numb. His appetite is good. The abdomen is protuberant. The heart and lungs are essentially normal. He takes a laxative. The blood pressure in July 1935 was 180 systolic, and the hemoglobin from 85 to 90. In September 1936 his blood pressure was 140 systolic, 90 diastolic. September 11 he stated that his mouth felt sore all over, especially under the sides of the tongue just posterior to the frenum. On the upper and lower bony ridge where the plates fit there is numbness and the mouth seems dry. The mucous membrane is normal and moist but the tongue is slightly swollen and is red and furrowed. He states that he raises considerable stringy sputum in the morning. (Three or four years ago a throat specialist stated that the throat was normal.) If he awakens in the night he takes a few slices of orange with relief from the dryness, although he thinks he sleeps with his mouth closed. In the past, he has eaten cough drops and hard candy to increase the flow of saliva, but he uses very little now. Medication now is 5 grains (0.3 Gm.) of methenamine, two, three or four times a day, and Schlotterbeck's Mist. Helonin Comp., a dessertspoonful in hot water two or three times a day. One 1½ grain (0.1 Gm.) tablet of amytal is taken at bedtime. Urinalysis shows a specific gravity of 1.013, acidity, a trace of albumin, no sugar, a few small round cells, a small to moderate amount of pus, rarely a hyaline cast, and an occasional erythrocyte. Blood examination reveals hemoglobin from 80 to 85 per cent, white cells 11,250, red cells 5,000,250, polymorphonuclears 51 per cent, small lymphocytes 32 per cent, eosinophils 6 per cent, mononuclears 7 per cent, myelocytes 4 per cent, platelets normal, and red cells very slightly hypochromic. X-ray examination shows the maxilla and mandible normal. The patient does not use tobacco or alcohol. What would be your diagnosis and treatment for this man? Please omit name.

M.D., Massachusetts.

ANSWER.—In a man of his age who has undergone such a serious operation and who has taken so many drugs over a long period, a possible neurosis must be considered. Then, too, he may have some degenerative changes, which may account for the symptoms involving the fifth and ninth nerves, resulting from sclerotic changes in the cerebral vessels, affecting the nutrition of the nerve centers.

The feeling of numbness of the gums, especially the upper, may be due to pressure of the denture on the posterior palatine nerve and branches of the fifth nerve (especially the posterior part of the plate and the border of the plate as it extends upward into the sulci) or reflection of the mucous membrane over the cheeks and lip. Quite frequently vulcanite plates, which do not conduct heat, produce a congestion beneath them. This condition is often relieved by a metal plate.

The soreness at the sides and base of the tongue is quite common and quite baffling. Infection of the lingual tonsils and lymphatic tissue is at times thought to be the cause, but usually

when this tissue is operated on the symptoms are increased. At times, either natural or artificial teeth cause an irritation; such teeth should be ground and polished. Operative or strenuous medical treatment is contraindicated and general hygiene, change of scene and surroundings, with efforts to get him interested in some definite line of thought and effort, will tend to make him less susceptible to sensory disturbances and thereby he will be less disturbed by them.

He was probably subjected to too much shock during the extraction of all his teeth and recovery therefrom, and the ordeal probably has remained uppermost in his mind.

His blood examination reveals a slight anemia and his white count seems to point to an infection somewhere. If his temperature should be taken three times a day at regular intervals and recorded, it might help to clear the picture.

At any rate, a general line of treatment tending to get him up to par is indicated.

TESTS FOR ALCOHOL IN BLOOD

To the Editor:—I was wondering whether I could obtain any information concerning the micromethod of Widmark for testing the content of alcohol in the blood. A problem has arisen concerning drinking drivers following automobile accidents. I am at the present time police physician in Batavia, with a population of 20,000 people, and I should like to know more about this method and how it has worked out. I would appreciate it very much if you would tell me where I might obtain such information.

W. C. SWASEY, M.D., Batavia, N. Y.

ANSWER.—The Widmark method of testing for alcohol in the blood is described in the *Biochemische Zeitschrift* **131**:473, 1922. This procedure is being used extensively in medicolegal cases in Europe and has the advantage of requiring only a few drops of blood.

It might be advisable also to consider other methods; namely, that of Nicloux (*Bull. Soc. chim. biol.* **13**:857 [Sept.-Oct.] 1931 and **16**:1314 [Sept.-Oct.] 1934) and of Friedemann (*J. Biol. Chem.* **115**:47 [Aug.] 1936).

Another simple method has been successfully employed in more than 400 cases of drunken drivers in Pennsylvania alone and is now being used in several other states. The method depends on the change in color of potassium dichromate produced by alcohol. Permanent color standards corresponding to definite quantities of alcohol can be made or can be purchased from the LaMotte Chemical Company of Baltimore. Either blood or urine may be tested, but the urine is to be preferred because of the ease of collecting specimens for medicolegal purposes, and because the alcohol in the urine more nearly approximates the alcohol in the spinal fluid than does the alcohol in the blood.

The finding of alcohol sufficient to produce mental or physical inferiority is necessary for the scientific confirmation of obvious intoxication.

TREATMENT OF HAY FEVER BY APPLICATION OF ALCOHOL OR PHENOL TO NASAL MUCOUS MEMBRANE

To the Editor:—Will you kindly describe and briefly discuss the method of local desensitization of the nasal mucosa by injection of alcohol combined with phenol or by surface application of pure phenol as mentioned in Queries and Minor Notes in THE JOURNAL, Sept. 12, 1936. Please omit name.

M.D., District of Columbia.

ANSWER.—In 1933 H. H. Vail (*Arch. Otolaryng.* **18**:651 [Nov.] 1933) described the method of treatment of hay fever by nasal injections of alcohol. He used a needle 1½ inches in length and inserted it 1 inch into the anterior half of the lower turbinate, withdrawing the needle slowly as he injected 2 cc. of solution. He then injected about 0.5 cc. in the septum; 2 cc. was injected in each side. The solution consists of 4 cc. of 40 per cent alcohol with 1 cc. of procaine hydrochloride 2 per cent without epinephrine. The injections were made beneath the mucosa after cocainization of the site of injection. Rarely was it necessary to make an injection into the midturbinate, and the olfactory region was carefully avoided.

Vail reported twelve cases, three of "rose fever" (grass hay fever), with complete relief. In the other nine patients, all of whom had autumnal or ragweed hay fever, five obtained marked relief and four no relief. In one of the five successful cases two injections were necessary and in another one, while there was complete relief from hay fever, the asthma was so bad that the patient had to go north. This investigator states that the injections are not as painless as does Leichsenring (*Ztschr. f. Hals-, Nasen- u. Ohrenh.* **28**:220 [May 26] 1931). The patient gets severe shooting pains through the temple, cheeks, nose and teeth for about fifteen minutes, with gradual clearing within twenty-four hours. The bleeding is not severe but is annoying and may also last for about twenty-four hours. There is extreme blanching of the mucosa. Vail strongly disapproves of the injection of alcohol in the sphenopalatine ganglion for hay fever or vasomotor rhinitis. He believes that the injections of alcohol are worth trying in cases of hay fever in which pollen therapy has been unsuccessful and in which it is not possible for the patient to seek a more suitable climate. The effect of a successful injection lasts from six to eight weeks. The greatest drawback is the severe pain.

Leichsenring has had good results in 80 per cent of the cases and advises yearly injections. He asserts that there is but little pain.

The surface application of pure phenol may be carried out as follows:

The midnose is to be cocainized with from 4 to 5 per cent cocaine for ten minutes; then pure phenol is applied by means of a warm applicator. The entire mucosa is swabbed up to just above the level of the midturbinate. The patient should be cautioned to avoid hawking up the material so as not to cause a phenol burn of the posterior part of the nose. Before this treatment is started it is well to smear the nasal margins with petrolatum in order to prevent a phenol burn. Following the treatment there is considerable local reaction, which lasts a day or two and then a cast of the membrane comes out. The results are good in some cases and the action is similar to that of ionization.

DESENSITIZATION IN DERMATITIS VENENATA

To the Editor:—June 6 I saw a white man about 35 years of age, a foundry worker, who had been suffering with dermatitis venenata on both hands since June 2. He had tried home remedies such as sugar of lead, epsom salt and potassium permanganate with on result. He was given a prescription containing boric acid, powdered zinc oxide, glycerin and witch hazel, which he used for a week with no results. As he was unable to do his work as a molder, poison ivy extract, a product of the U. S. Standard Products Company, was given every other day, starting with an intramuscular dose at 0.5 cc., which was increased to 0.75 cc. and on the third and last day to 1 cc. There was very rapid clearing and scaling of the lesions on both hands. As his hands cleared, however, he began to be troubled with burning and itching sensations about the torso and legs, particularly about the feet. At first there was a demonstrable lesion at the site of the burning. The first visible evidence of the urticarial lesion was about the eyes and in the hairy portion of the face. This was greatly aggravated by washing and shaving. This swelling about the face persisted intermittently for a week or ten days. Since July 1 he has been troubled with intermittent but daily urticarial lesions. He has been back at work with the exception of the first week and apparently has less difficulty with the urticaria when he is working in the foundry and perspiring freely, although the burning sensation is quite severe, particularly when the men are pouring the metal into the molds. When his case first became severe, epinephrine was used, with partial relief, in 8 drop doses over a period of four or five days. An attempt was made to let him carry on with ephedrine sulfate three-eighths grain (0.025 Gm.) and amytal 1½ grains (0.1 Gm.) because of the itching and burning at night, which prevented him from sleeping. After a period of a week this had no results. From the beginning he was placed on an alkaline diet with large amounts of fruit juice and soda, with small doses of magnesium sulfate in the mornings to aid in elimination. In addition he was given calcium gluconate 60 grains (4 Gm.) a day for a period of about three weeks, at which time it was increased to 120 grains (8 Gm.). At the time it was increased, parathyroid extract was given intramuscularly in 20 units every other day. At present, after a period of ten weeks, he has urticarial spots, principally on his back, face and arm, some of which are spontaneous in origin; others were produced after pressure. His forearms, feet and legs, back and shoulders are frequently the site of intense burning sensations. I have tried to list the treatment in the order of his calls. In addition, however, I have used bran baths, calamine lotion, salve containing menthol and phenol, minute doses of ergot, a milk diet and various treatments. X-ray treatment has been suggested for the skin but was not tried on recommendation of a very competent radiologist. If you can give me any help in this, I will appreciate it. Please omit name and state.

M.D.

ANSWER.—Although calcium was tried, it may not have been absorbed. Calcium gluconate could be given intravenously and, through the same needle, from 5 to 20 cc. of blood withdrawn and injected intramuscularly. The calcium can be given every other day, the blood injected every sixth day.

Ergotamine tartrate, 0.001 Gm. three times a day by mouth, may be given for not more than four days. It sometimes gives lasting relief.

Histamine is recommended for desensitization. Fiessinger and Gajdos use a 1:10,000 solution of histamine hydrochloride in water on the positive electrode of a galvanic current of from 6 to 10 milliamperes for five to ten minutes. The positive electrode is placed on the epigastrium, the negative electrode held in the hand. These treatments are given every other day and often relief is obtained in two weeks. The action of the electricity on the stomach is so slight that no untoward result may be feared (Fiessinger, N., and Gajdos, A.: La reactogenothérapie de l'urticaire recidivante par l'ionisation a l'histamine, *Presse méd.* **43**:35, 1913).

Glaessner recommends aminoacetic acid, 10 Gm. or even 15 Gm. daily, dissolved in water or lemonade, given before meals. He believes that it has a detoxifying action. It is a diuretic but has no unpleasant action, even in large doses. He reports excellent results after eight or ten days of this treatment. (Glaessner, K.: Die Wirkung des Glycocolls auf Urticarielle Zustände, *Klin. Wchnschr.* **6**:597 [March 26] 1927).

The therapy of urticaria was described by Bernard Fantus and Theodore Cornbleet in THE JOURNAL, Aug. 24, 1935, page 595.

BURN OF EAR WITH POTASSIUM CYANIDE SOLUTION

To the Editor:—I have been taking care of a steel temperer who in February 1936 accidentally spattered a solution of 45 per cent potassium cyanide into his left ear. The temperature of the solution was 1,500 F. Burns of the skin of the external auditory canal and erosion of the tympanic membrane took place. As time went on, complete destruction of the drum and malleus and incus occurred. In order to prevent atresia of the canal, a catheter was inserted. At the present time there is a tendency for the external auditory canal to close down unless a catheter is kept in place. A large amount of granulation tissue is present in the middle ear, which recurs quickly even after cauterization with trichloroacetic acid and removal by the punch method. Of late the patient has complained of attacks of dizziness, headache and staggering. There are no signs of labyrinthine disturbance, although this must be present from the nature of the symptoms. There is almost complete loss of hearing in the affected ear. The roentgenograms taken from time to time show only slight clouding of the mastoid cells. I am contemplating doing a radical mastoid operation, because of the atresia of the canal and because of the granulations and symptoms of irritation of the labyrinth. Can you inform me of the nature of the activity of potassium cyanide on living tissue, especially that of the ear, and whether any cases of this type have been reported in the literature? What can you suggest for further treatment?

HAROLD LIEBERMAN, M.D., Worcester, Mass.

ANSWER.—The injury that took place to the patient's ear in all likelihood was not due to any specific action of potassium cyanide. What took place probably would have happened had any other liquid of the same temperature been involved. It appears (Chronic Potassium Cyanide Poisoning, Queries and Minor Notes, THE JOURNAL, Sept. 26, 1936, p. 1070) that the cyanides externally are, as a rule, without special effect. It is quite proper to consider the performance of a radical mastoid operation because of the obstinate atresia of the canal and the chronic otitis media, and because conservative measures have proved a failure so far. The patient has wholly lost his hearing on the affected side, so that operation will not increase his disability in this respect.

ANORECTAL SINUS

To the Editor:—I have under my care a married woman, aged 42, white, whom I first saw professionally one year ago, when she complained of a rectal discharge and pain of two months' duration in the region of the rectum and lower part of the back. Her past history, except for a miscarriage ten years ago after a five months period of gestation, is essentially negative. The patient is 5 feet 8 inches (173 cm.) tall, weighs 140 pounds (63.5 Kg.) and appears to be in perfect health. The general examination is negative. The Wassermann and Kahn reactions are negative. Digital examination of the rectum revealed a small, indurated tender area on the posterior wall about 1¼ inches from the anorectal junction. Speculum examination showed a sinus opening from which pus flowed freely. A probe was inserted, which led into an irregularly shaped shallow cavity, measuring perhaps 1½ inches in each direction. In November 1935, under ether anesthesia with a speculum inserted in the rectum, the sinus was enlarged by incision, the cavity curetted, and a gauze pack inserted. Since operation the cavity has failed to heal in spite of several office treatments consisting of curetting the cavity and cauterizing it with 10 per cent silver nitrate solutions. The Koch bacillus could not be found in scrapings from the cavity. There is no pus in the cavity at present. It bleeds freely on the lightest probing. I should like to know what further treatment should be instituted in the case to facilitate complete healing. Would it be safe to let it go entirely for a period of several months to see whether healing would occur? If published, please omit name.

M.D., Illinois.

ANSWER.—Any lesion at the anorectal outlet which fails to heal in a reasonable length of time, when properly cared for, should be regarded with suspicion. The tissues that were removed at the first operation should be sectioned and examined microscopically. If this is not possible, fresh tissue should be taken and subjected to careful microscopic examination. If the lesion involves a portion of the lower part of the rectum, as well as the anus, it may be an adenocarcinoma. If only the anus is involved, it is probably a squamous cell epithelioma. The latter is very malignant, and although it may disappear readily following radium treatment, the ultimate prognosis is very grave.

If the physician is dealing with an anal abscess that has originated as a simple infection of the anal crypts, he should be able to produce permanent closure by dissecting out the walls of the abscess and allowing the wound to fill in by granulation. Such a wound should be opened well at its external margins so that drainage will not be interrupted, and although it is necessary to pack such a wound immediately after operation, the gauze should be removed within forty-eight to seventy-two hours and in its place light dressings, saturated with medicated solutions, should be substituted. The rectum should be irrigated following each evacuation of the bowel, and the wound should be dressed daily until it is entirely healed.

LOW CHOLESTEROL DIET

To the Editor:—I wish to have outlined a low cholesterol diet. Also, has there yet any literature accumulated on the influence of a high blood cholesterol on Wassermann fastness?

P. J. DELANO, M.D., Chicago.

ANSWER.—Unfortunately the amount of work done in the field of investigation of the cholesterol content of foods has been relatively meager. The greatest dearth exists in the analyses of food products as eaten. This inadequacy renders an accurate prescription of a low cholesterol diet subject to much criticism.

Gleaned from the analyses available, a diet can be compounded by respecting the following two lists:

*Foods Highest in Cholesterol**

Brains †	Liver †	Lard
Egg yolk †	Sweetbreads †	Meats and poultry
Fish roe †	Butter	Oysters
Kidney †	Fish	Suet

*Foods Lowest (Negligible) in Cholesterol**

Breadstuffs	Nuts
Egg white	Sugars and syrups
Cereals	Vegetables
Fruits	Vegetable oils

* From Bridges, M. A.: Dietetics for the Clinician, ed. 3, Philadelphia, Lea & Febiger, 1937.
† Outstanding.

A casual survey of the literature fails to reveal any material on the relation of high blood cholesterol and Wassermann fastness.

HYDROCEPHALUS

To the Editor:—An infant, aged 3 months, has hydrocephalus, which was first observed three weeks after a normal delivery. The infant had, however, a spina bifida. There has been quite constant drainage from birth, but this is now quite completely healed over with epithelium. The baby's head since the first observation increased rapidly in size and circumference, in all ways giving the usual picture. At about 2 months of age the hydrocephalus seemed to be abating, but with increase in the amount of discharge from the lumbar spinal lesion. This was quite marked for almost a week, but as the spinal lesion healed over and there was little or no drainage, the head again is becoming more tense, although not enlarging much. Outside of a somewhat incomplete flaccid paralysis of the lower extremities (they are not developing with the rest of the body), there is little else in the way of paralysis. The bowels and bladder are under control. The baby eats, sleeps and seems to be gaining fairly well, although the stomach capacity seems not to exceed 3 ounces (90 cc.) of milk at a feeding. Can or should anything be done as to the hydrocephalus and the spinal lesion? If so, when? If the spinal lesion does not discharge more, and the hydrocephalus continues, should a lumbar tap or ventricular puncture be done (of course, by one competent)? What are the results of such treatment? Should physical therapeutic measures and position (molded splints) be carried out as in other cases of flaccid paralysis? What is the prognosis if one stands by, as is so often advised? The parents are resigned to what fate I have been able to inform them. Incidentally, they have other normal children and this one came many years (ten or so) after the preceding one. Please omit name and town.

M.D., Iowa.

ANSWER.—In any case of hydrocephalus it should be remembered that spontaneous arrest may occur at almost any stage of the development of the condition. If spontaneous arrest occurs at an early stage there may remain only a moderate enlargement of the head and no limitation of intelligence. The question of what to do and when to do it is difficult to answer in any given case. It is known that hydrocephalus not infrequently develops following a successful operation for spina bifida. Therefore, in the case in question, should an operation for removal of the spina bifida be successful, the hydrocephalic condition would probably be aggravated. Surgical treatment of the hydrocephalus would probably consist in an attempt to remove part of the choroid plexus, thus diminishing the source of the cerebrospinal fluid. Such an operation is a dangerous procedure and the mortality is high.

In cases of hydrocephalus combined with spina bifida, ventricular puncture would be the site of choice for draining the cerebrospinal fluid. The benefit of such drainage would be only temporary and each instrumentation would carry with it considerable danger of infection. The flaccid paralysis might be helped by simple splints. Any prognosis in such a case must be extremely guarded. When the condition develops soon

after birth and progresses rapidly, a fatal outcome usually occurs before the end of the first year. If measurements of the head are made at given intervals and the increase in circumference spontaneously ceases, a better prognosis is indicated. Such an arrest of the hydrocephalus is thought to be brought about by a diminution in the production of cerebrospinal fluid, so that an equilibrium with absorption by the meninges has taken place. In the case in question a watchful attitude rather than surgical intervention would seem the wiser course, in the hope that spontaneous arrest may occur before too great damage to the brain substance has been done.

TOXICITY OF CHROMATES

To the Editor:—A man, aged 45, has been working with dyes in an industrial plant for ten years. For the past nine years he has been troubled with what he calls boils of his neck, face and hands. Examination reveals an extensive but superficial induration with ulceration and purulent discharge on a large area of the back of his neck, with smaller patches on his face and hands. These have shown rapid improvement in a week's time with a simple soothing ointment and keeping the lesions covered while working. I am presuming there is some irritation to which he is exposed while at work. There have never been any lesions on part of his body covered by clothing. Patch tests were done with the various dyes that he has been using. Pyrogallic acid showed a marked skin reaction and potassium bichromate a mild one. The others were all negative. This man does the actual heating and mixing of the dyes. Would it be likely that the fumes of the pyrogallic acid cause skin irritation followed by secondary infection? As I believe that potassium bichromate is nonirritating, could he have developed a sensitivity to this substance which might be a causative factor? Could you make any recommendations for future prevention, as it is not practical for him to change his occupation? Please omit name if published.

M.D., New York.

ANSWER.—Contrary to the opinion expressed in this query, solutions of potassium bichromate are directly irritating both to the broken and to the unbroken skin. However, "chrome holes" seldom become secondarily infected. Chromates and chromic acid are hydrolyzed with such difficulty that some bactericidal action long remains at the site of local injury. As suggested in the query, a few workers become sensitized to the action of chromic acid and its compounds. Patch tests, unless made with high dilutions of chromium compounds or chromic acid, will provide an apparent positive reaction as a result of direct irritation. Almost all dye workers are exposed to a variety of skin irritants. It is believable that if the described disorder is in truth the result of work exposure, mixed irritants probably are responsible rather than any one specific dye or other chemical present. Conditions are made worse by high temperatures. The pyrogallic acid is a skin irritant, but it is not believable that full responsibility can be placed on this one substance. In fact, due consideration should be given to the possibility that this workman, like hundreds of others, suffers from a furunculosis, unrelated to work as the cause. An extensive discussion of skin irritating dyes may be found in the publications of Schwartz of the United States Public Health Service.

RECURRENT NASAL POLYPS

To the Editor:—A patient of mine, a boy aged 17 years, has been operated on sixteen times in five years for nasal polyps, which always have recurred on the same site of the nose. He has been seen and treated by many a specialist in the field and nobody seems to know of any possible way to avoid such recurrences. The last surgeon spoke of some allergic studies of the case, but as far as family history, life and occupation of the patient go there is no hint of any possible allergy. I heard sometime ago of some operation to reline, so to speak, the nasal passages with some artificial membrane, transplant or grafting, but I did not read anything about it in any medical paper. I would appreciate information or suggestion about the most recent radical treatment for nasal polyps. Kindly omit my name. M.D., New York.

ANSWER.—The situation described is common in the experience of every rhinologist. One cannot determine in every case what the underlying reason is for the presence of polyps, and hence for their recurrence. Complete studies to determine idiosyncrasy to foods, inhalants and other irritants should be made but are often disappointing. Apart from this, the fact that polyps recur is no reason for becoming unnecessarily despondent. A few polyps at a sitting may be removed in the office to give relief for weeks or months. If the patient is able to breathe freely through his nose, the presence of a few small polyps cannot possibly harm him.

Neither irradiation nor operation nor relining the nasal passages with artificial membrane, transplanting or grafting (the last suggestion is not familiar to us) can hold out promise of total relief. Removing the polyps as completely as possible and using radium locally has been highly recommended. Best of all, perhaps, if recurrences are frequent and troubling, would be an external operation on the ethmoids and antrums, if they are involved, with widespread removal, under direct inspection, of the diseased mucous membrane. Even this, in the hands of the best men, has been found disappointing on occasion.

INFECTION AND CARBOHYDRATE TOLERANCE IN PERSONS WITH DIABETES

To the Editor:—I am a diabetic patient, with blood sugar down from 266 to 214. I am mentally clear, feel better, and had a carbuncle excised one week ago. Will the blood sugar and urinary sugar (I am getting 20 units of insulin) go away or will it stay high until the carbuncle is healed? I am mentally clearer and that should be a good criterion. Please omit name. M.D., Illinois.

ANSWER.—Infection almost invariably decreases carbohydrate tolerance in diabetic persons and renders the administered insulin less effective. It is good practice, therefore, to increase the amount of insulin given to a diabetic patient who is suffering from an infection until the glycosuria disappears and the blood sugar hovers about the normal range. As the infection clears up, the insulin should be progressively reduced as warranted by the decreasing diabetic manifestations. Hence it would be wise not to wait for the healing of the carbuncle to allow the hyperglycemia and glycosuria to improve. However, if one did wait, the time at which improvement in tolerance would occur depends more on the time at which absorption of toxic products from the carbuncle ceased than on the complete healing of a clean granulating area.

THRESHOLD OF IRRITABILITY—USE OF HYDROCHLORIC ACID IN PERSISTENT DERMATITIS

To the Editor:—In the Sept. 12, 1936, issue of THE JOURNAL, in answer to a question captioned "Persistent Dermatitis" (p. 899), mention is made in the last paragraph of giving calcium lactate with lactose and diluted hydrochloric acid. Would you kindly explain: 1. What is meant by the "threshold of irritability" and the reason for giving calcium lactate and lactose? 2. Why is hydrochloric acid given? Please omit name.

M.D., New York.

ANSWER.—1. The threshold of irritability is the barrier that prevents a latent irritability from becoming manifest. When this barrier is lowered by any cause such as overwork, dissipation or infection, the susceptible tissue shows the evidence of irritation. When the threshold is raised again by rest, physical or mental hygiene or in any other way, the symptoms of irritation subside and the irritability becomes latent. Calcium is given to increase the cell content of this metal, which causes the cell to become less easily irritated. The lactose during digestion releases lactic acid, which aids the absorption of calcium.

2. Hydrochloric acid decreases the alkalinity of the organism and aids the absorption of calcium.

PRENATAL SYPHILIS

To the Editor:—I am interested in an evaluation of the prospects for good health, fecundity and healthy offspring of a man, aged 24, with congenital syphilis who contemplates matrimony. The patient first came under my supervision when 21 years old, suffering from an ulnar bursitis. He had Hutchinson's teeth and a two plus blood Wassermann reaction, but no other recognized stigmas. There is a presumptive history of maternal prenuptial syphilitic infection, untreated before or during pregnancy. The patient is the only offspring. There is no history of postnatal syphilitic lesions or treatment, and the pegged teeth were the only clues present before the bursitis developed. The bursitis promptly disappeared when injections of neoarsphenamine were begun. Thirteen injections of 0.4 Gm. were given, as well as nine injections of 0.2 Gm. of sodium bismuth thioglycollate. The Wassermann reaction was unchanged but the patient did not submit to further treatment until two years later, when he developed a depression neurosis. Then seven injections of tryparsamide 2 Gm. were given, and again there was marked improvement in his condition. Six months later there was a severe gastroenteritis with jaundice and marked biliuria, after some twenty tablets of a "patent" medicine (Brom-Quinine) were ingested in one day's time for a respiratory infection. The jaundice cleared up in one week with palliative treatment. The treatment has been, admittedly, inadequate; the stubborn Wassermann reaction does not concern me so much as the fear that the patient may be unfit for marriage from the eugenic and economic standpoints. Kindly omit name, city and state. M.D.

ANSWER.—The patient is undoubtedly suffering from prenatal syphilis. His treatment is inadequate and one cannot say, even at the age of 24, that he is free from risk of such a serious complication, for example, as severe keratitis or perhaps a keratitis of both eyes. Moreover, the symptoms mentioned—a depression neurosis—may well be beginning dementia paralytica. It is unfortunate that a lumbar puncture has not been done on the patient as yet, and this should be carried out at once. A cell count, globulin test, gold colloid

curve and Wassermann test should be done on the spinal fluid. Certainly until this is done the matter of marriage must be absolutely set aside.

If the lumbar puncture is negative, the patient should have continuous therapy for one year of alternating courses of an arsenical and of a bismuth compound; for example, using neoarsphenamine or mapharsen in weekly doses for a series of ten injections, following this with weekly injections of bismuth salicylate 0.2 Gm. for a series of ten injections, giving two courses of the arsenicals and two of the bismuth. Along with it potassium iodide should be exhibited.

The blood Wassermann reaction in itself will probably be difficult to change to negative and does not have so much moment as the possibility of the involvement of the central nervous system. Certainly if the spinal fluid is positive in this case there should be consultation with some authority in this field before any more consideration is given to the matter of marriage.

PELOUZE TREATMENT OF GONORRHEA

To the Editor:—In reply to a reader's question as to Pelouze's treatment of gonorrhea in the March 20 issue of THE JOURNAL, the answer is substantially an abstract of one of Pelouze's chapters from his textbook. The reader is informed that in acute anterior urethritis strict adherence to anterior irrigations with permanganate solution 1: 8,000 and instillations of a few cubic centimeters of a weak solution of mild protein silver bring about cure for 90 per cent of cases in six weeks and that 10 per cent require from one to three weeks' additional treatment. Pelouze is also quoted to the effect that from 75 to 85 per cent of the cooperative patients seen before the fifth day fail to have a posterior extension of the disease. While such results are devoutly hoped for, alike by patient and by physician, claims for six weeks cures from this routine are misleading and in actual practice seldom duplicated by others. It is wise to tread cautiously regarding the following advice from the textbook: "For posterior urethritis, in acute posterior urethral infection oral sedatives are given and all local treatment, except hot hip baths, is stopped until about a week after the patient has regained his bladder comfort. Then low pressure (not more than 3 feet) hydrostatic irrigations of 1: 8,000 potassium permanganate are given into the bladder (no catheters or other urethral instruments are ever passed until it is safe to assume the gonococcus no longer is present). The bladder is only partially filled, the patient voids and this is repeated several times, some of the solution being left in the bladder at the end of the treatment. Treatments of this type are carried out two or three times a week." Those inexperienced had better avoid this type of treatment. Experienced urologists mostly avoid this type of treatment, so as not to encourage persistent prostatitis and vesiculitis and the likelihood of an acute, disabling epididymitis.

MAURICE MELTZER, M.D., New York.

PNEUMOCOCCIC MENINGITIS

To the Editor:—In Queries and Minor Notes in THE JOURNAL March 27, page 1136, you answer questions with regard to a case of pneumococcic meningitis. Although I am only a laboratory technician, I feel that I must criticize a part of your reply. To begin with, I have seen a patient with pneumococcic meningitis recover and am told that there are others in the literature. These are not just diagnosed as gram-positive diplococci but typed by the Neufeld method. The case I referred to was type XII pneumococcus from the spinal fluid. Then too I do not think you should advise pneumococcus antiserum without definitely stating that only after the type of pneumococci has been determined should the homologous type of therapeutic serum be administered. Pneumococcus curative serum is of value only when one has the same type serum available as the invading organism.

F. A. SENIOR, Department of Internal Medicine, Cincinnati General Hospital, Cincinnati.

"PROPER MANOMETRIC READINGS IN ARTIFICIAL PNEUMOTHORAX"

To the Editor:—In THE JOURNAL, March 6, I noticed that there was a request for information on the proper manometric readings in artificial pneumothorax. The answer to this question goes into some detail with regard to the use of pressure in artificial pneumothorax but I believe has entirely missed the real question. I believe the question was directed as to the correct readings in use today, that is, whether to be read as shown on the average manometer or whether to be doubled. In the article by Peters and others in the November issue of the *American Review of Tuberculosis*, there is considerable discussion on the proper pressures to use.

OSCAR LOTZ, M.D., Milwaukee.

INHERITANCE OF HEMOPHILIA—A LITERARY ERROR

To the Editor:—I thought you might be interested in what is apparently an error in medical knowledge displayed by Housman in his "Victoria Regina." In it he states that Victoria's husband, Albert, did not inherit the family strain of hemophilia because his mother had been indiscreet and his own father was not the king of Saxe-Coberg Gotha. The latter was apparently the hemophiliac line. All the references I can find state that hemophilia is transmitted only through the female, and I would judge from that that the male offspring of a hemophilic father would be free unless the mother was also of hemophilic heredity.

J. R. RODGER, M.D., Bellaire, Mich.

Medical Examinations and Licensure

COMING EXAMINATIONS

STATE AND TERRITORIAL BOARDS

ALABAMA: Montgomery, June 22-24. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.

ARIZONA: *Basic Science.* Tucson, June 15. Sec., Dr. Robert L. Nugent, Science Hall, University of Arizona, Tucson.

ARKANSAS: *Basic Science.* Little Rock, May 3. Sec., Mr. Louis E. Gebauer, 701 Main St., Little Rock. *Medical (Regular).* Little Rock, June 17-18. Sec., Dr. A. S. Buchanan, Prescott. *Medical (Eclectic).* Little Rock, May 11. Sec., Dr. Clarence H. Young, 1415 Main St., Little Rock.

CALIFORNIA: *Reciprocity.* San Francisco, May 19. *Examinations.* San Francisco, June 28-July 1, and Los Angeles, July 19-22. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento.

CONNECTICUT: *Basic Science.* New Haven, June 12. *Prerequisite to license examination.* Address State Board of Healing Arts, 1895 Yale Station, New Haven. *Medical (Homeopathic).* Derby, July 12. Sec., Dr. Joseph H. Evans, 1488 Chapel St., New Haven. *Medical (Regular).* Hartford, July 13-14. *Endorsement.* Hartford, July 27. Sec., Dr. Thomas P. Murdock, 147 W. Main St., Meriden.

DELAWARE: Dover, July 13-15. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, Dover.

DISTRICT OF COLUMBIA: *Basic Science.* Washington, June 28-29 (probable dates). *Medical.* Washington, July 12-13. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: Jacksonville, June 14-15. Sec., Dr. William M. Rowlett, Box 786, Tampa.

GEORGIA: Atlanta, June 9-10. Joint-Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.

HAWAII: Honolulu, July 12-15. Sec., Dr. James A. Morgan, 48 Alexander Young Bldg., Honolulu.

ILLINOIS: Chicago, June 22-25 and Oct. 19-21. Superintendent of Registration, Department of Registration and Education, Mr. Homer J. Byrd, Springfield.

INDIANA: Indianapolis, June 22-24. Sec., Board of Medical Registration and Examination, Dr. William R. Davidson, 301 State House, Indianapolis.

IOWA: Iowa City, June 8-10. Dir., Division of Licensure and Registration, Mr. H. W. Grefe, Capitol Bldg., Des Moines.

KANSAS: Topeka, June 15-16. Sec., Board of Medical Registration and Examination, Dr. C. H. Ewing, 609 Broadway, Larned.

KENTUCKY: Louisville, June 9-11. Sec., State Board of Health, Dr. A. T. McCormack, 532 W. Main St., Louisville.

MAINE: Augusta, July 6-7. Sec., Board of Registration of Medicine, Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: *Medical (Regular).* Baltimore, June 15-18. Sec., Dr. John T. O'Mara, 1215 Cathedral St., Baltimore. *Medical (Homeopathic).* Baltimore, June 8-9. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MASSACHUSETTS: Boston, July 13-15. Sec., Board of Registration in Medicine, Dr. Stephen Rushmore, 413-F State House, Boston.

MICHIGAN: Ann Arbor and Detroit, June 9-11. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 202-204 Hollister Bldg., Lansing.

MISSISSIPPI: Jackson, June. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson.

MISSOURI: St. Louis, June 3-5. State Health Commissioner, Dr. H. F. Parker, State Capitol Bldg., Jefferson City.

NEBRASKA: *Basic Science.* Omaha, May 4-5. *Medical.* Omaha, June 8-9. Dir., Bureau of Examining Boards, Mrs. Clark Perkins, State House, Lincoln.

NEVADA: Carson City, May 3-4. Sec., Dr. John E. Worden, Box 630, Carson City.

NEW HAMPSHIRE: Concord, Sept. 9. Sec., Board of Registration in Medicine, Dr. Fred E. Clow, State House, Concord.

NEW JERSEY: Trenton, June 15-16. Sec., Dr. James J. McGuire, 28 W. State St., Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 28-July 1. Chief, Professional Examinations Bureau, Mr. Herbert J. Hamilton, 315 Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 21. Sec., Dr. Ben J. Lawrence, 503 Professional Bldg., Raleigh.

NORTH DAKOTA: Grand Forks, July 6-9. Sec., Dr. G. M. Williamson, 4½ S. 3rd St., Grand Forks.

OHIO: Columbus, June 1-4. Sec., State Medical Board, Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA: Oklahoma City, June 9-10. Sec., Dr. James D. Osborn Jr., Frederick.

OREGON: *Medical.* Portland, June 15-17. Sec., Dr. Joseph F. Wood, 509 Selling Bldg., Portland. *Basic Science.* Corvallis, July 17. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 6-10. Sec., Board of Medical Education and Licensure, Dr. James A. Newpher, Education Bldg., Harrisburg.

PUERTO RICO: San Juan, Sept. 7. Sec., Dr. O. Costa Mandry, Box 536, San Juan.

SOUTH CAROLINA: Columbia, June 22. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

SOUTH DAKOTA: Rapid City, July 20-21. Dir., Division of Medical Licensure, Dr. B. A. Dyar, State Board of Health, Pierre.

TENNESSEE: Knoxville, Memphis and Nashville, June 17-18. Sec., Dr. H. W. Qualls, 130 Madison Ave., Memphis.

UTAH: Salt Lake City, June 21-23. Dir., Department of Registration, Mr. S. W. Golding, 326 State Capitol Bldg., Salt Lake City.

VERMONT: Burlington, June 16-18. Sec., Board of Medical Registration, Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 17-19. Sec., Dr. J. W. Preston, 2815 Franklin Road, Roanoke.

WASHINGTON: *Basic Science.* Seattle, July 8-9. *Medical.* Seattle, July 12-14. Dir., Department of Licenses, Mr. Harry C. Huse, Olympia.

WEST VIRGINIA: Fairmont, July 12. Sec., Public Health Council, Dr. Arthur E. McClue, State Capitol, Charleston.

WISCONSIN: Milwaukee, June 29-July 2. Sec., Dr. Henry J. Gramling, 2203 S. Layton Blvd., Milwaukee.
WYOMING: Cheyenne, June 7. Sec., Dr. G. M. Anderson, Capitol Bldg., Cheyenne.

NATIONAL BOARD OF MEDICAL EXAMINERS SPECIAL BOARDS

Examinations of the *National Board of Medical Examiners and Special Boards* were published in THE JOURNAL, April 24, page 1459.

Ohio Reciprocity and Endorsement Report

Dr. H. M. Platter, secretary, Ohio State Medical Board, reports 18 physicians licensed by reciprocity and 3 physicians licensed by endorsement on Jan. 5, 1937. The following schools were represented:

School	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
Northwestern University Medical School	(1927) (1936)	Michigan, Illinois
Rush Medical College	(1935), (1936)	Illinois
University of Illinois College of Medicine	(1934)	Illinois
State University of Iowa College of Medicine	(1928)	Iowa
University of Louisville School of Medicine	(1927)	Kentucky
University of Maryland School of Medicine	(1914)	W. Virginia
St. Louis University School of Medicine	(1934), (1935, 2)	Missouri
Temple University School of Medicine	(1934)	New Jersey
University of Pennsylvania School of Medicine	(1933)	New York
Meharry Medical College	(1929)	Oklahoma
University of Texas School of Medicine	(1931)	Texas
Marquette University School of Medicine	(1932)	Illinois
University of Wisconsin Medical School	(1932)	Wisconsin
Medizinische Fakultät der Universität Wien	(1928)	New York

School	Year Grad.	Endorsement of
LICENSED BY ENDORSEMENT		
Harvard University Medical School	(1930), (1933)	N. B. M. Ex.
University of Pennsylvania School of Medicine	(1929)	N. B. M. Ex.

Book Notices

Thirty-Fourth Annual Report, 1935-1936, of the Imperial Cancer Research Fund Under the Direction of the Royal College of Physicians of London and the Royal College of Surgeons of England. Paper. Pp. 43. London: The Fund, 1936.

This report of the director of the Imperial Cancer Research Fund, W. H. Gye, reflects again the many activities of the institution, which embrace cancer research in almost all its phases. Although many important confirmations have been made through the experimental work of the past year, no epochal results are found in this report. The main chapters to which contributions have been made during this period by the staff of the Imperial Cancer Research Fund are on carcinogenesis, on viruses, and on the study of the effect of radiation on the physiology of cancer tissues.

In the introduction to the report of the work on carcinogenesis, Gye tries to give this factor its proper place in the conception of cancer etiology, according to his well known ideas. It is again emphasized that the etiology of cancer presents two entirely different and mainly independent aspects: (1) the intrinsic cellular change that confers on a cell the property of malignancy (here called the proximate cause of cancer) and (2) the conditions acting from without on a normal cell that produce the "precancerous conditions of the tissues" (remote causes of cancer). According to this conception the latter prepare the area of tissue for the intrinsic cellular change by which a malignant cell is formed from a normal cell. The underlying assumption that the factors which confer on a normal cell the property of continuous and autonomous growth reside within the cell is stressed again in a paper by Cramer, Cancer in Man in the Light of Experimental Cancer Research.

The research on carcinogenic agents conducted during this year is particularly concentrated on the effect of radioactive substances and of hormones. The first phase is represented by the studies of Selbie, who confirmed former experiences of other authors of the carcinogenic power of thorium dioxide. The production of sarcomas, even with small amounts of thorium dioxide, indicates the danger of this agent if introduced into the human body.

The studies by Cramer and Horning regarding the carcinogenic power of estrogen have confirmed the experiments by Lacassagne in producing mammary cancer in male mice by this agent. They have furthermore demonstrated that painting of the skin with this agent also produced mammary cancer but not cancer of the skin, which indicates an organ specificity for these carcinogenic agents.

Besides the carcinogenic effect of estrogen, the application of this substance has given rise to very characteristic changes in other endocrine organs (increase in size of the islands of Langerhans in the pancreas, degenerative changes in the adrenals, changes in the pituitary gland which might proceed to the formation of adenomas of the anterior part). The clinical symptoms in the animals which have shown these changes resemble closely those observed after surgical removal of the pituitary gland, so much so that Gye states that "the prolonged application of certain oestrogenic hormones produces a functional hypophysectomy which morphologically is associated with an enlargement of the anterior part and a loss of its chromophil cells."

With regard to the carcinogenic power of estrogen, it is particularly stressed that there is no danger in the clinical application of these substances, since the dose therapeutically administered is too low.

In another line of investigation Cramer demonstrated the contrast between the susceptibility to mammary cancer and tar-induced cancer of the skin which, under certain conditions, even exclude each other. This therefore does not afford support to the belief of the existence of a general susceptibility to cancer. The observation that in animals with active mammary cancer the production of skin cancer by tar painting is very difficult indicates that the effect of a carcinogenic agent is conditioned by systemic factors, although in itself a localized process.

In the field of research on viruses in relation to cancer, two phases have been under examination. McIntosh had previously reported the successful transmission of tar tumors in fowls by cell-free filtrates. Fould has repeated these experiments but could not reproduce the results. His experiments of transmitting dibenzanthracene tumors by cell-free filtrates out of these tumors failed. He could, however, immunize rabbits by injection of tissue of an avian dibenzanthracene tumor, as well as by the injection of cell-free extracts from these tumors. Both these injections produced antibodies in the blood of the immunized rabbits which had the power to neutralize the virus of the Rous sarcoma.

The other line of investigation concerning viruses is the study of rabbit papillomas by Selbie. This study demonstrates the surprising fact that it is possible to induce tumors by injection of cell-free filtrates of the benign papilloma but that the supposed virus disappears if the tumor changes into a malignant one.

In the field of the effect of radiation therapy, Crabtree has continued his studies on the effect of radiation of the respiratory and glycolytic systems on the cells. There is a selective action on certain specific cell mechanisms which are affected independently of one another. Tissues irradiated by body temperature slowly lose their respiratory power, whereas the glycolysis remains unaffected. Tissues cooled at 10 degrees or less show first the detrimental effect on glycolysis while respiration still remains unimpaired. Crabtree showed furthermore that the enzyme glyoxalase remains unaffected through radiation, even when the total glycolysis of the tumor is considerably reduced. This is important for the support of the theory in which glyoxalase plays no part in the transformation of sugars into lactic acid.

In Cramer's studies of irradiation of malignant cells with sublethal doses of radium, he could not produce an artificial radioresistance. The repeated transplantation and irradiation with sublethal doses showed a gradual decrease in the rate of successful inoculations, indicating that the effects of small doses of radiation are cumulative and that the period of recovery from slight damage is longer than has been assumed.

Transplantation studies by Selbie with two mouse tumors showed the factor of natural resistance to transplantation to be hereditary. This again supports the classic experiments of Little, Strong and Bittner in this country.

Georg Wilhelm Steller: The Pioneer of Alaskan Natural History. By Leonhard Stejneger. Cloth. Price, $6. Pp. 623, with 31 illustrations. Cambridge, Mass.: Harvard University Press, 1936.

The subject of this biography was a physician, who was one of the greatest naturalist explorers in Alaska and a member of the expedition which in 1741 discovered Alaska for the Russian government. The author of the book followed Steller's course, checking over his observations and collecting a mass of material from Steller's own writings and from contemporary publications, on which this biography is based. The result is

a volume full of interesting revelations and most fascinating for all who have ever visited Alaska. It reveals the hardships of the early explorers in that territory and provides an account not only of Steller's work but also of the investigations made by the great Bering, whose name is indelibly associated with Alaskan geography. The book is beautifully illustrated with many colored plates, maps and charts. There are some medical references of special interest, and a series of appendixes of particular importance to naturalists. The bibliography is profound and an indication of the scholarly character of the work.

Die gynäkologischen Operationen und ihre topographisch-anatomischen Grundlagen. Von Prof. Dr. med. Heinrich Martius, Direktor der Universitäts-Frauenklinik, Göttingen. Paper. Price, 52 marks. Pp. 396, with 404 illustrations. Leipzig: Georg Thieme, 1937.

This ranks foremost as an operative gynecology. All gynecologic operations plus appendectomy, herniotomy and ureteral transplantation are described in detail. Particularly gratifying are the detailed descriptions of plastic operations and the intra-abdominal operations of round ligament shortening and sterilization as done by the vaginal route. The text is profusely illustrated with drawings and diagrams that in themselves are so well done that the knowledge of German is hardly necessary for a complete understanding of the anatomy and technic employed in the completion of the operations. Not only are the surgical procedures well illustrated, but every operation is described in an anatomic diagram showing the relationships between all the organs that may be encountered. This book can be recommended without reserve to all gynecologists, general surgeons who may encounter pelvic disturbances, and postgraduate students who are interested in learning gynecologic technic and anatomy. The diagrammatic drawings are of the best and in themselves provide a perfect textbook of gynecologic anatomy. The volume should be a part of the library of every physician who has occasion to invade the female pelvis for surgery.

Surgical Diseases and Injuries of the Genito-Urinary Organs. By Sir John Thomson-Walker, D.L., M.B., C.M., Consulting Urologist, King's College Hospital. Edited by Kenneth Walker, M.A., M.B., B.C., Lecturer in Venereal Diseases, St. Bartholomew's Hospital. Second edition. Cloth. Price, $10. Pp. 974, with 341 illustrations. Baltimore: William Wood & Company, 1936.

In this excellent treatise on diseases of the genito-urinary organs, the high standard set in the original edition by Sir John Thomson-Walker has been well maintained by the present editor. Although adequate discussion of the various subjects in this field is included, emphasis has been laid on the surgical procedures involved in treating the various diseases. In spite of the fact that almost a thousand pages have been devoted to the various diseases of the genito-urinary tract, it was necessary to limit the discussion of many subjects to such an extent that in some instances it is inadequate. It is quite evident that our knowledge in this field is increasing so rapidly that separate monographs on the different subjects involved have become necessary in order to obtain thorough consideration.

In considering renal infection, the classification employed is somewhat elaborate and quite different from that adopted by most American urologists. It is of interest to note that the use of vaccines is still advocated. Although the important advances recently made in the treatment of infection in the urinary tract are referred to, they apparently were so recent at the time the book was published that they receive but scant consideration. This emphasizes the weakness of all textbooks in rapidly advancing fields such as urology in that the discussion of some subjects often becomes out of date before it is off the press.

In discussing the subject of renal tumor the classification is not in accord with recent views and could be greatly simplified. The term "hypernephroma" is retained and is regarded as distinct from adenocarcinoma, which in turn is differentiated from carcinoma. Tumors of the bladder are classified largely according to gross pathology. The cellular differentiation and classification of Broders, which is so widely accepted by American urologists, is not referred to.

The attitude of English urologists with regard to the treatment of renal mobility is interesting. English surgeons have always regarded this condition as amenable to surgery and, although it is recognized that some limitations should be made, many of them seem to believe that nephropexy is indicated in most cases and that the urographic demonstration of stasis is not always necessary.

The discussion of transurethral (or "per-urethral" as the editor terms it) resection of the prostate gland is comparatively limited and quite inadequate. This is undoubtedly due to the fact that English urologists have been slow in adopting this method of removing prostatic obstruction. The editor states that in his opinion not more than 20 or 25 per cent of such cases will be amenable to per-urethral manipulation. This is quite in contrast to the experience and opinion of American urologists who have had broad experience in this field. Figures are quoted on the early failures and difficulties of a few American urologists, who with increased experience in the last few years have had results that are quite different.

Another illustration of the rapid march of urologic progress is shown by the absence of any mention of the treatment of gonorrhea and its complications by means of hyperpyrexia.

The chapters on diseases of the genitalia are quite complete, particularly in the description of surgical treatment. It is of interest to note, however, that no mention is made of the Aschheim-Zondek test in diagnosis of tumors of the testis. It may be said, however, that the book is an excellent treatise on the subject and deserves a place among the best of the rapidly increasing numbers of textbooks dealing with genito-urinary disease.

Sérothérapie antipoliomyélitique d'origine animale (S. A. P.). (Seize années d'expérimentation clinique.) Par Auguste Pettit, professeur à l'Institut Pasteur. Paper. Price, 30 francs. Pp. 271, with 9 illustrations. Paris: Masson & Cie, 1936.

This is an account of the experiences in the laboratory and with the treatment of patients with acute anterior poliomyelitis by three types of animal serums produced by the author. A brief survey is given of the experimental background for the production of these serums. This is followed by a detailed account of the method of testing of the serums and their actual production in three hosts: a species of lower monkey, the chimpanzee and the horse. Concentration of these serums was practicable by a modification of Ramon's method for the concentration of pseudoglobulin, the antiviral activity being increased twentyfold. The last two thirds of the booklet is given to case reports, in the majority of which the serum (of one origin or another, mainly antiviral horse serum) was administered after the onset of paralysis. These reports taken individually or as a whole might well be compatible with the natural evolution of the disease. Indeed, the claims made for these serums in the conclusions, i. e., that paralysis is prevented when given in the preparalytic stage and that bulbar involvement and the spread of paralysis are halted when given after paralysis has set in, are not warranted on the basis of the evidence presented. In view of the capricious and treacherous course of this disease, in view of the larger number of preparalytic cases in which paralysis never occurs (about 80 per cent according to the American data) and in view of the unsettled state of even convalescent serum therapy in this disease, the use of an animal serum even though virucidal in vitro does not seem to be warranted.

Urology for Nurses. By Oswald Swinney Lowsley, M.D., F.A.C.S., Director of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital, and Thomas Joseph Kirwin, M.D., F.A.C.S., Attending Urologist of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital. In collaboration with the entire nursing staff of the Department of Urology of the New York Hospital. Cloth. Price, $3. Pp. 493, with 101 illustrations. Philadelphia, London & Montreal: J. B. Lippincott Company, 1936.

This is an excellent volume for its purpose. Not only is there a good historical review and general consideration of the subject, but also it is written in a manner that is easily understood. The chapters on the care of urologic instruments are especially to be recommended. Discussion of the relation of nurse to patient, especially as concerns venereal disease, is not forgotten. Adequate description of the various technical and laboratory procedures is included, so that the student can gain an understanding into their application. With the exception previously noted, the discussion of urology is quite complete and is satisfactory. Perhaps the poorest section of the book is that on urology in females. This is unfortunate as a great deal of the urologic treatment of females is performed

by nurses. It is probable that, even though the fly leaf states that reference to other books is unnecessary, for this work another urology had best be consulted. A complete glossary is appended, the only weakness being in the manner of synonyms. For example, Hunner's ulcer is the only term given for a condition known by a variety of terms with which the average nurse might not be familiar. The index seems satisfactory. In general it seems that this volume lives up to its glowing advertisement and is well worth the price asked. It would be extremely valuable for the nursing profession and would not even be out of place in the urologist's library.

The British Encyclopedia of Medical Practice Including Medicine, Surgery, Obstetrics, Gynaecology and Other Special Subjects. Under the General Editorship of Sir Humphry Rolleston, Bt., G.C.V.O., K.C.B., M.D. Volume II: Apraxia to Carriers in Infective Disease. Cloth. Price, $12. Pp. 830, with 126 illustrations. London and Toronto: Butterworth & Co. (Publishers), Ltd., 1936.

This alphabetical consideration of medical practice proceeds from "apraxia" to carriers in infective disease. Among articles especially likely to attract wide attention are those dealing with arthritis, athletic injuries, birth palsies, blood examination, brain abscess, breast diseases, cancer, and carriers in infective disease. Volume II is just as handsome as the first volume from a typographic point of view. The material is printed on a fine paper stock, arranged on the pages for easy reference, beautifully illustrated with many colored plates, and written by authors who have achieved repute in the fields with which they are concerned. As in the first volume, the distinctly British character of the work is reflected by the use of the British Pharmacopeia and a failure to recognize many recent American medical contributions. There is a separate index to volume II, and an exhaustive index of the complete system will be made available when the series is completed.

Stammering. By Elsie Fogerty, Principal of the Central School of Speech Training and Dramatic Art. Cloth. Price, $1.25. Pp. 64, with one illustration. New York: Greenberg, 1936.

This little handbook is divided into four chapters, dealing with the development of stammering in the child, curative work for young children, curative work at school age, and self cure at a later age. The author says that "stammering is a nervous trouble," and she attempts to give it an adlerian explanation, which may have some basis in fact but is entirely inadequate. The reference to fear is, on the whole, well handled, but the excellent work done by Ferenczi on the relation of tic to speech, and Coriot's studies in stammering are ignored. The last two chapters, outlining methods of treatment, appear to be good from the standpoint of breathing and vocal exercises, but again, as in the theoretical section, the author's opening sentence, "Stammering is a nervous trouble," is almost forgotten and this aspect is unfortunately handled.

Die anatomischen Namen: Ihre Ableitung und Aussprache. Von Professor Dr. Hermann Triepel. Anhang: Eigennamen, die Früher in der Anatomie verwendet wurden. Neu bearbeitet und entsprechend den neuen anatomischen Namen ergänzt durch Dr. med. et phil. H. Stieve, o. ö. Professor der Anatomie in Berlin. Eighteenth edition. Paper. Price, 3.90 marks. Pp. 89. Munich: J. F. Bergmann, 1936.

This is a guide to anatomic nomenclature and has had considerable success in previous years. Of special interest is the appendix, which contains names of investigators whose own names were previously associated with anatomic structures. It is, of course, customary in modern science to discard these eponyms.

Light: The Raw Material of Vision. By Thomas Hall Shastid, A.M., M.D., LL.B. Cloth. Price, $2. Pp. 64. Ann Arbor, Michigan: George Wahr, 1936.

This booklet is merely a sketch introductory to a much larger work on a similar subject which the author, an eye physician, expects to publish soon. He presents his thoughts and investigations and a few new definitions on what he is pleased to call "the raw material of vision," carrying his ideas on light through the nature and source, the vision factory, and the way it operates. In language almost simple enough for the public, he discusses the nature of light and its behavior. Interspersed are philosophic musings and at times quotations from various poets.

The Lung. By William Snow Miller. Cloth. Price, $7.50. Pp. 209, with 152 illustrations. Springfield, Illinois & Baltimore: Charles C. Thomas, 1937.

In this book the author has collected more than 150 illustrations of the lungs, using most of the periodicals and textbooks available and including, as well, many from his own collection. The book is based on almost fifty years of study of the lung structure. The author uses the term "hilum" instead of "hilus." The book is magnificently produced; many of the illustrations are in colors. It includes a historical sketch, involving biographic notes of all the great investigators who specialized in a study of the lung. This is an invaluable reference work for all those who are concerned with knowledge of the lungs in any of its aspects.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Medical Services: "Immediate Surgical Relief" Construed.—If an indemnity insurance policy contains a clause authorizing the insured to provide at the time of an accident, at the cost of the insurer, "such immediate surgical relief as is imperative," no hard and fast rule, said the Supreme Court of South Carolina, can be laid down by which to determine the extent of the surgical relief that is authorized. The nature of the injury and its severity must necessarily govern. The court thought that a proper construction of the clause was well expressed in *United States Casualty Company* v. *Johnston Drilling Company*, 161 Ark. 158, 255 S. W. 890, 34 A. L. R. 727, as follows: "Now, the words 'such immediate surgical relief as is imperative' as used in the contract of insurance obviously contemplates emergency or 'first-hand' relief, in other words, such relief as must be given instantly or immediately following the accident to prevent impending death or to assuage or prevent suffering. These words have no reference to such surgical and medical treatment and hospital charges and compensation for nurses and such other expenses as are incident to, and necessarily incurred in, the usual and ordinary treatment of the victim of the accident some time after the accident occurred and which are continued in order to restore him, if possible, to his normal condition, and by so doing to lessen the damages for which the person causing the injury would be liable."—*Dime Taxi Co. v. Central Mut. Ins. Co. of Chicago (S. C.), 186 S. E. 391.*

Optometry Practice Acts: Annual Registration Fee Used for Optometrical Research.—The petitioner was licensed to practice optometry in California. The legislature imposed an annual registration fee of $12 on optometrists and provided that of this sum $8 was to be paid to the University of California by the director of professional and vocational standards to be used solely for the advancement of optometrical research. The balance of the renewal fee, namely, $4, was required to be paid into the state treasury by the director. When the annual renewal license fee for 1936 became due, the petitioner paid to the director of the department named the sum of $4 and demanded that he be issued a renewal certificate for 1936. The director refused to do so and the petitioner applied to the district court of appeal, third district, California, for a writ of mandamus.

The petitioner contended that the exaction of $8 for the support of the department of optometry of the University of California constituted an exercise of the taxing power rather than of the police power and that the exaction was unconstitutional because it denied to him due process and equal protection of the law and created an arbitrary discrimination between persons and classes of persons similarly situated. But, said the district court of appeal, the petitioner erred in referring to the science of optometry as the "business" of optometry, in contending that the license fee of $12 was imposed as a tax for revenue purposes, and that such license fee, being imposed on a business, was limited to the amount necessary

for licensing, including reasonable compensation for supervision over the particular industry. The practice of optometry is more than a business, continued the court. It is a profession relating to the public health and, as such, is peculiarly subject to state control. That control is not exercised for the benefit of the licensee but for the protection of the state, and the legislature in the exercise of its police power may impose such proper restrictions as it deems necessary for the protection of the public. The right to practice a learned profession comes from the state and is subject to conditions imposed by the state and may be taken away for noncompliance with such conditions. One of the conditions imposed by the state on the right of a person to continue the practice of optometry in California is that he pay $12 annually for the right so to do. He may either accept or reject the state's offer. If he rejects the offer, he may not be permitted to continue the practice. The disposition of the proceeds from the license fees collected from optometrists is a concern of the legislature and not of the members of the optometrical profession. The legislature, being vested with authority to determine the methods whereby optometry may be best regulated and the public interest protected, has concluded that such public interest may be best served by the maintenance and support of a department of optometry at the University of California, a branch of the state itself. This action is not subject to review by the courts. The petitioner's application for a writ of mandamus was therefore denied.—*Penington v. Bonelli (Calif.), 59 P. (2d) 448.*

Dental Practice Acts: Revocation of License for Aiding Corporate Practice.—The California board of dental examiners revoked the license of the respondent, E. G. Masters, on the basis of a complaint charging (1) that he aided and abetted an unlicensed person to practice dentistry and (2) that he employed cappers and steerers to obtain business. The superior court, San Diego County, annulled the revocation order and the board appealed to the district court of appeal, fourth district, California.

The complaint, as a matter of pleading, was sufficient, said the appellate court. It alleged that the Western Health and Hospital Corporation, Ltd., was practicing dentistry by offering to perform, through its agents, operations or treatment of diseases or lesions of the human teeth, alveolar process and gums, for a fee; that the corporation engaged the respondent to perform such treatments and operations and that he therefore aided and abetted the corporation to practice dentistry. On proof of these facts, the court said, the board of dental examiners had jurisdiction to suspend and revoke the respondent's license. The dental practice act provides that a license may be revoked for aiding or abetting any unlicensed person to practice dentistry. A corporation cannot lawfully practice dentistry, nor may a corporation obtain a license to practice. If it does practice dentistry it is necessarily unlicensed practice. The word "person" includes a corporation as well as a natural person, and hence the term "unlicensed person" as used in the dental practice act includes a corporation which practices dentistry. It follows, said the court, that this accusation in the complaint against the respondent stated facts sufficient to constitute unprofessional conduct and grounds for suspending or revoking the respondent's license. The superior court, therefore, erred in annulling the judgment of the board based on this accusation.

The respondent was further charged with employing cappers or steerers to obtain business but, the court said, there was no evidence to sustain this charge. The record did not disclose that the respondent ever employed the Western Health and Hospital Corporation, Ltd., to obtain business for him. Two witnesses testified that a person at the office of the Western Health and Hospital Corporation, Ltd., gave them the name of the respondent as a dentist for the corporation along with the names of other dentists. This evidence was inadmissible as hearsay, said the court, and hearsay alone is not legally sufficient to support the accusation. The judgment of the superior court, therefore, that the evidence produced before the board of dental examiners was insufficient as a matter of law to prove this accusation was consequently affirmed.—*Masters v. Board of Dental Examiners of California (Calif.), 59 P. (2d) 827.*

Society Proceedings

COMING MEETINGS

American Medical Association, Atlantic City, N. J., June 7-11. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.

American Academy of Pediatrics, New York, June 3-5. Dr. Clifford G. Grulee, 636 Church St., Evanston, Ill., Secretary.

American Academy of Tuberculosis Physicians, Atlantic City, N. J., June 7-8. Dr. Arnold Minnig, 638 Metropolitan Bldg., Denver, Secretary.

American Association for the Study of Goiter, Detroit, June 14-16. Dr. W. Blair Mosser, 133 Biddle St., Kane, Pa., Secretary.

American Association for Thoracic Surgery, Saranac Lake, N. Y., May 31-June 2. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.

American Association of Genito-Urinary Surgeons, Quebec, Canada, June 14-16. Dr. Henry L. Sanford, 1621 Euclid Ave., Cleveland, Secretary.

American Association of Industrial Physicians and Surgeons, Detroit, May 6-7. Dr. Volney S. Cheney, Union Stock Yards, Chicago, Secretary.

American Association on Mental Deficiency, Atlantic City, N. J., May 5-8. Dr. E. Arthur Whitney, Elwyn, Pa., Secretary.

American Bronchoscopic Society, Atlantic City, N. J., June 2. Dr. Lyman Richards, 319 Longwood Ave., Boston, Secretary.

American Dermatological Association, Sky Top, Pa., June 3-5. Dr. Fred D. Weidman, 1930 Chestnut St., Philadelphia, Secretary.

American Gastro-Enterological Association, Atlantic City, N. J., June 7-8. Dr. Russell S. Boles, 1901 Walnut St., Philadelphia, Secretary.

American Gynecological Society, Swampscott, Mass., May 31-June 2. Dr. Richard W. TeLinde, 1201 N. Calvert St., Baltimore, Secretary.

American Laryngological Association, Atlantic City, N. J., May 31-June 2. Dr. James A. Babbitt, 1912 Spruce St., Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Atlantic City, N. J., June 3-5. Dr. C. Stewart Nash, 708 Medical Arts Bldg., Rochester, N. Y., Secretary.

American Neurological Association, Atlantic City, N. J., June 3-5. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., June 3-5. Dr. J. Milton Griscom, 255 South 17th St., Philadelphia, Secretary.

American Orthopedic Association, Lincoln-Omaha, Neb., June 2-4. Dr. Ralph K. Ghormley, 110 Second Ave. S.W., Rochester, Minn., Secretary.

American Otological Society, New York, May 27-28. Dr. Thomas J. Harris, 104 East 40th St., New York, Secretary.

American Proctologic Society, Atlantic City, N. J., June 6-8. Dr. Curtice Rosser, 710 Medical Arts Bldg., Dallas, Texas, Secretary.

American Psychiatric Association, Pittsburgh, May 10-14. Dr. William C. Sandy, State Education Bldg., Harrisburg, Pa., Secretary.

American Radium Society, Atlantic City, N. J., June 7-8. Dr. William P. Healy, 121 East 60th St., New York, Secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 3. Dr. J. M. Hayman Jr., 2065 Adelbert Road, Cleveland, Secretary.

American Society of Clinical Pathologists, Philadelphia, June 2-6. Dr. A. S. Giordano, 531 North Main St., South Bend, Ind., Secretary.

American Surgical Association, New York, June 3-5. Dr. Charles G. Mixter, 319 Longwood Ave., Boston, Secretary.

American Therapeutic Society, Atlantic City, N. J., June 4-5. Dr. Oscar B. Hunter, 1835 Eye St. N.W., Washington, D. C., Secretary.

Associated Anesthetists of the United States and Canada, Atlantic City, N. J., June 7-8, Dr. F. H. McMechan, 318 Hotel Westlake, Rocky River, Ohio, Secretary-General.

Association for the Study of Internal Secretions, Atlantic City, N. J., June 7-8, Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.

Association of American Physicians, Atlantic City, N. J., May 4-5. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.

California Medical Association, Del Monte, May 2-6. Dr. F. C. Warnshuis, 450 Sutter St., San Francisco, Secretary.

Connecticut State Medical Society, Bridgeport, May 19-20. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.

District of Columbia, Medical Society of the, Washington, May 5-6. Dr. C. B. Conklin, 1718 M St. N.W., Washington, Secretary.

Georgia, Medical Association of, Macon, May 11-14. Dr. Edgar D. Shanks, 478 Peachtree St. N.E., Atlanta, Secretary.

Illinois State Medical Society, Peoria, May 18-20. Dr. Harold M. Camp, 202 Lahl Bldg., Monmouth, Secretary.

Iowa State Medical Society, Sioux City, May 12-14. Dr. Robert L. Parker, 3510 Sixth Avenue, Des Moines, Secretary.

Kansas Medical Society, Topeka, May 3-6. Mr. Clarence G. Munns, Stormont Bldg., Topeka, Executive Secretary.

Maine Medical Association, Belgrade Lake, June 20-23. Miss Rebekah Gardner, 22 Arsenal St., Portland, Secretary.

Massachusetts Medical Society, Boston, June 1-3. Dr. Alexander S. Begg, 8 The Fenway, Boston, Secretary.

Medical Library Association, Richmond, Va., May 23-26. Miss Janet Doe, 2 East 103d St., New York, Secretary.

Medical Women's National Association, Atlantic City, N. J., June 6-8. Dr. F. S. Fetterman, 7047 Germantown Ave., Philadelphia, Secretary.

Minnesota State Medical Association, St. Paul, May 3-5. Dr. E. A. Meyerding, 11 West Summit Ave., St. Paul, Secretary.

Mississippi State Medical Association, Meridian, May 11-13. Dr. T. M. Dye, McWilliams Bldg., Clarksdale, Secretary.

Missouri State Medical Association, Cape Girardeau, May 10-12. Dr. E. J. Goodwin, 634 North Grand Blvd., St. Louis, Secretary.

National Tuberculosis Association, Milwaukee, May 31-June 3. Dr. Charles J. Hatfield, 7th and Lombard Sts., Philadelphia, Secretary.

Nebraska State Medical Association, Omaha, May 10-13. Dr. R. R. Adams, 15 N Street, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 18-19. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.

New Mexico Medical Society, Clovis, May 13-15. Dr. L. B. Cohenour, 219 West Central Ave., Albuquerque, Secretary.

New York, Medical Society of the State of, Rochester, May 24-26. Dr. Peter Irving, 2 East 103d St., New York, Secretary.

North Carolina, Medical Society of the State of, Winston-Salem, May 3-5. Dr. L. B. McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Grand Forks, May 16-18. Dr. Albert W. Skelsey, 20½ North Broadway, Fargo, Secretary.

Oklahoma State Medical Association, Tulsa, May 10-12. Dr. L. S. Willour, Third and Seminole, McAlester, Secretary.

Rhode Island Medical Society, Providence, June 2-3. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.
South Dakota State Medical Association, Rapid City, May 24-26. Dr. John F. D. Cook, Langford, Secretary.
Texas, State Medical Association of, Fort Worth, May 10-13. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.
Vancouver Medical Association Summer School, Vancouver, B. C., June 22-25. Dr. J. R. Naden, 203 Medical-Dental Bldg., Vancouver, Secretary.
West Virginia State Medical Association, Clarksburg, May 24-26. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers in continental United States and Canada for a period of three days. Periodicals are available from 1926 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them. Titles marked with an asterisk (*) are abstracted below.

American Journal of Cancer, New York

29: 219-434 (Feb.) 1937

Chemical Compounds as Carcinogenic Agents. J. W. Cook, G. A. D. Haslewood, C. L. Hewett, I. Hieger, E. L. Kennaway and W. V. Mayneord, London, England.—p. 219.
Carcinogenic Activity of Cholanthrenes and of Other 1:2-Benzanthracene Derivatives. L. F. Fieser, Mary Fieser, E. B. Hershberg, M. S. Newman, A. M. Seligman and M. J. Shear, Boston.—p. 260.
Studies in Carcinogenesis: IV. Development of Liver Tumors in Pure Strain Mice Following Injection of 2-Amino-5-Azotoluene. M. J. Shear, Boston.—p. 269.
Pure Strain of Malignant Mesenchymal Cells, Originating from Rat Sarcoma Produced by 1:2-Benzpyrene. L. Doljanski and L. Halberstaedter, Jerusalem, Palestine.—p. 285.
Medullary Carcinoma of Suprarenal Gland (Pheochromocytoma). M. J. Fein and F. F. Carman, Montclair, N. J.—p. 301.
*Iso-Agglutinins in Association with Malignant Growth. Anna Goldfeder and J. L. Fershing, New York.—p. 307.
Transplantation of Tumor Cells to Normal and Preirradiated Heterologous Organisms. J. Clemmesen, Aarhus, Denmark.—p. 313.
Chemistry of Cell Division: VI. Inhibition of Tumor and Liver Nuclease by Arsenicals. Mary E. Maver and C. Voegtlin, Washington, D. C.—p. 333.
Spectrographic Studies of Cancer and Normal Blood Plasma: III. Ultraviolet Absorption Spectrums of Fractionated Immune and Normal Rat Blood Plasma. Rachel G. Franklin, L. Smith and A. J. Allen, Philadelphia.—p. 341.
Experimental Serum Studies: Part II. Effect of Experimental Serum on Cell Respiration in Vitro of Sarcoma 180. Anna Goldfeder, New York.—p. 344.
Lack of Estrin Concentration in Adenofibroma of Mammary Gland in Rats. F. E. Mohs, Madison, Wis.—p. 356.
Influence of Wheat Germ Oil in Diet on Induction of Tumors in Mice. A. Haddow, London, England, and Helen Russell, Edinburgh, Scotland.—p. 363.

Iso-Agglutinins in Association with Malignant Growth.—In view of the diversity of opinion, Goldfeder and Fershing made a study of 300 cancer cases in which the diagnosis was confirmed by histologic study after biopsy or necropsy. It differs from reports of previous investigators in that the percentage distribution of blood groups was studied not only in relation to the number of unclassified malignant manifestations but also in relation to anatomic location and to histologic type. All blood groups were represented among the 300 cancer cases. An analysis of the observations shows a marked difference in the distribution among the blood groups, of cancer of different sites. For instance, among the forty-four patients with malignant conditions of the breast, 43 per cent belong to group O, while among forty-one with malignant diseases of the cervix, only 26 per cent belong to group O. Among fifteen patients with cancer of the larynx, 46.7 per cent belong to group O, while none belong to group AB. Among eighteen cases of malignant disease of the mouth, 44 per cent fall in group O, 44 per cent in group A, 6 per cent in group B and 6 per cent in group AB. Of seventeen malignant disorders of the face, 47 per cent belong to group O, 35 per cent to group A, 18 per cent to group B and none to group AB. Among twenty malignant changes of the stomach, 55 per cent belong to group O, 25 per cent to group A, 20 per cent to group B, and none to group AB.

American J. Digest. Dis. & Nutrition, Fort Wayne, Ind.

3: 879-970 (Feb.) 1937

*Effect of Administration of Aluminum Preparations on Secretory Activity and Gastric Acidity of Normal Stomach. A. C. Ivy, L. Terry, G. B. Fauley and W. B. Bradley, Chicago.—p. 879.
Lymphosarcoma of Stomach: Study of Four Cases. E. N. Collins and M. G. Carmody, Cleveland.—p. 884.
Intravenous Galactose Liver Function Test. I. R. Jankelson, M. Segal and M. Aisner, Boston.—p. 889.
Gastro-Intestinal Symptoms of Pelvic Origin. H. Gauss, Denver.—p. 891.
Composition of Human Gastric Juice Secreted in Response to Histamine Administration. C. Gwendoline Toby, Montreal.—p. 896.
Does Histamine Stimulate Secretory Activity of Peptic Cells in Man? C. Gwendoline Toby, Montreal.—p. 902.
Gastro-Intestinal Studies: VI. Volume of Gastric Juice in Pernicious Anemia. P. J. Fouts, O. M. Helmer and L. G. Zerfas, Indianapolis.—p. 904.
Studies on Chemical Nature of Interaction Between Intrinsic and Extrinsic Antianemic Factors on Incubation of Liver Extract and Normal Gastric Juice. O. M. Helmer and C. P. Emerson Jr., Indianapolis.—p. 906.
Protamine Insulin in Treatment of Diabetes. H. G. Jacobi, New York.—p. 908.
Present Evaluation of Vitamin B_1 Therapy. M. G. Vorhaus, New York.—p. 915.
Large Diverticula of Gastric Cardia. G. Cheney and R. R. Newell, San Francisco.—p. 920.
Volvulus of Inverted Intrathoracic Stomach Complicating Diaphragmatic Hernia: Case Report. A. Bowen, Los Angeles.—p. 923.
Chaulmoogra Oil in Treatment of Lymphopathia Venerea. G. M. Landrock, Philadelphia.—p. 928.
Lymphogranuloma Inguinale: Rectal Stricture and Prestricture. M. G. Spiesman, R. C. Levy and D. M. Brotman, Chicago.—p. 931.
Hemorrhoids: Their Origin and Treatment. J. M. Lynch, V. Hurley and G. J. Hamilton, New York.—p. 936.
Significance of Icterus Index in Proctologic Disorders. J. Gerendasy, Elizabeth, N. J., and R. V. Gorsch, New York.—p. 940.

Aluminum Preparations and Secretory and Gastric Acidity of Normal Stomach.—Ivy and his associates determined the normal gastric response of six graduate students, accustomed to the stomach tube, to 50 cc. of 7 per cent alcohol, after evacuating the gastric residuum. The alcohol test was performed with aluminum preparations immediately after taking the alcohol. The curves of the average response of the group for two hours shows that the aluminum preparation reduced the free acidity for forty-five minutes or longer. The variation in the response from subject to subject was rather marked, and the tendency to an increase in acidity after the aluminum had been evacuated was characteristic of four of the six subjects.

American Journal of Medical Sciences, Philadelphia

193: 297-448 (March) 1937

Passage of Fluid Through Capillary Wall. E. M. Landis, Philadelphia.—p. 297.
Observations on Blood Regeneration in Man: I. Rise in Erythrocytes in Patients with Hematemesis or Melena from Peptic Ulcer. E. Schiødt, Copenhagen, Denmark.—p. 313.
Id.: II. Influence of Sex, Age, Form of Hemorrhage, Treatment and Complications on Erythrocyte Regeneration After Hematemesis and Melena from Peptic Ulcer. E. Schiødt, Copenhagen, Denmark.—p. 327.
Interrelation of Various Systemic Hematopoietic Processes. T. R. Waugh, Montreal.—p. 337.
Physiologic and Symptomatic Expectancy Following Subtotal Gastrectomy. E. A. Gorvett and E. S. Talbot, Chicago.—p. 345.
*Tolerance of Certain Cardiac Patients for Various Recumbent Positions (Trepopnea). F. C. Wood and C. C. Wolferth, Philadelphia.—p. 354.
Organic Background of Some Cases of Spasmodic Torticollis: Report of Case with Autopsy. B. J. Alpers and C. S. Drayer, Philadelphia.—p. 378.
Pituitrin Injections and Blood Picture in Normal and Hypophysectomized Guinea-Pig. W. D. McFarlane and M. K. McPhail, Edmonton, Alta.—p. 385.
Recurrence in Mixed Tumors of Soft Palate. J. E. Rhoads and P. M. Mecray Jr., Philadelphia.—p. 389.
*Carbaminoylcholine—(Doryl or Lentin): Its Action on Normal Persons, in Peripheral Vascular Disease and in Certain Other Clinical Conditions. I. Starr, Philadelphia.—p. 393.
Use of Acetyl-β-Methylcholine Chloride by Iontophoresis in Peripheral Vascular Diseases. D. W. Kramer, Philadelphia.—p. 405.
Urinary Excretion of Arsenic: I. Normal Subjects. Marjorie R. Mattice and D. Weisman, New York.—p. 413.
Id.: II. Influence of Thiosulfate. Marjorie R. Mattice and D. Weisman, New York.—p. 420.
Present Status of Prevention and Treatment of Influenza. H. Pettit and J. Stokes Jr., Philadelphia.—p. 423.

Tolerance of Cardiac Patients for Certain Recumbent Positions.—Wood and Wolferth use the term trepopnea for the phenomenon observed in certain cardiac patients who can lie comfortably in one recumbent position, usually the right

lateral, but cannot tolerate another recumbent position, usually the left lateral, and are forced to abandon the latter for the former by symptoms that they cannot endure. This phenomenon is just as common and just as definite as orthopnea. There are certain indications that trepopnea and orthopnea are related and that they may be manifestations of the same type of underlying mechanism. Patients group themselves into four general categories: (1) those who can lie comfortably in any recumbent position, (2) those who prefer one position or object to another for relatively minor reasons, (3) those who experience dyspnea and discomfort in the chest when in the unfavorable position but who can endure it and (4) those who are actually forced to abandon one recumbent position for another by symptoms that they cannot endure. The last two groups constitute the material on which the authors' discussion is based. The symptoms that forced patients to change from one horizontal position to another were usually dyspnea and discomfort in the region of the heart. Less common manifestations that compelled them to move were coughing and anginal pain. Most of these patients showed considerable cardiac enlargement and a marked reduction of the functional capacity of the heart. No regularly occurring cardiovascular characteristics have been observed by which these patients with position preference can be differentiated from those with orthopnea, but in most engorgement of the veins and liver was more prominent than engorgement of the lungs. When a patient moved from a favorable to an unfavorable position there was usually a latent period before the appearance of symptoms. This period varied from ten seconds to two minutes (average about twenty seconds). The respiratory phenomena were variable. Certain patients showed a rapid rise of their respiratory rate to double the original and an apparent lessening in depth. Others showed a change of facial expression from one of relaxation and comfort to one of anxiety and apprehension and complained bitterly of dyspnea but did not increase their respiratory rate, and their breathing was not deepened. If these observations are supported by careful measurement of minute volume, they indicate that the dyspnea which is the principal complaint of these patients is a subjective sensation, which may or may not be accompanied by obvious change in the rate or depth of breathing. On fluoroscopic study, forty-nine subjects fell into three groups: fourteen with no demonstrable heart disease and no trepopnea, fifteen with heart disease without definite trepopnea, and twenty with heart disease and real trepopnea. In a few instances, systolic murmurs seemed to become louder after the patient had maintained the left lateral (unfavorable) position for a few minutes. The conclusion seems justified that this phenomenon cannot be accounted for by vital capacity changes or by variations in relative levels of the right auricle and the respiratory center. The authors believe that trepopnea is due to movement of the heart in the thorax as the patient changes position and that this movement causes pressure on certain mediastinal structures, which gives rise to the signs and symptoms. Patients in whom this phenomenon is marked do not assume their most unfavorable position at night, even when asleep. Those in whom it is less well developed are sometimes found in an unfavorable recumbent position during sleep, although they may assert that they cannot tolerate this position.

Action of Carbaminoylcholine in Peripheral Vascular Disease.—Starr first administered carbaminoylcholine chloride in increasing dosage to twenty-six normal young adult volunteers (from 0.1 to 1 mg. subcutaneously and from 0.4 to 1 mg. orally). With this experience behind him he employed it in the treatment of disease conditions which its action seemed adapted to benefit. The drug causes striking relief of pain in certain cases of peripheral vascular disease without any increase in skin temperature of the affected part. This raises the question whether the relief secured is due to something else than vasodilatation. In the author's opinion the skin temperature method of estimating peripheral blood flow is too crude to permit one to place much emphasis on a negative result. He attributes the relief of pain to vasodilatation of a grade too slight, or in vessels too deep, to be detected by this method. The information now at hand concerning its dosage, action and untoward effects is sufficient to warrant its cautious use in cases in which its action seems adapted to be beneficial.

American Journal of Ophthalmology, St. Louis

20: 237-346 (March) 1937

Sudden Occlusion of Retinal Arteries: Correlated Fundus Photographs and Fields in Branch Closures. A. J. Bedell, Albany, N. Y.—p. 237.
Lectures on Cataract: III. Anterior Segment and Other Complications in Postoperative Period. R. E. Wright, Madras, India.—p. 240.
*Ocular Lesions Associated with Postoperative and Gestational Nutritional Deficiency. H. P. Wagener and J. F. Weir, Rochester, Minn.—p. 253.
Gradient of Retinal Illumination and Its Practical Significance. E. J. Ludvigh, Boston.—p. 260.
Surgical Results in 223 Cases of Heterotropia; Especial Reference to Orthoptic Training. C. Berens, New York.—p. 266.
Essential Progressive Iris Atrophy: Case of Bilateral Occurrence. M. Fine and H. Barkan, San Francisco.—p. 277.
Thin Lenses and Bifocals for High Myopia. S. L. Olsho, Philadelphia.—p. 281.
Requirements of Good Desk Lighting. C. E. Ferree and G. Rand, Baltimore.—p. 286.
Enucleation with Implantation of Foreign Substances into Tenon's Capsule: Technic in Which No Sutures Are Buried. C. Berens, New York.—p. 293.
New Diathermy Point for Retinal Detachment. A. C. Unsworth, Hartford, Conn., and K. F. Larkin, New York.—p. 296.

Ocular Lesions Associated with Nutritional Deficiency.—Wagener and Weir point out that the occurrence of hemeralopia and xerophthalmia among persons whose diet is deficient in vitamin A has been well established. That deficiencies of other vitamins can cause lesions of the eye has not been so clearly demonstrated, although a number of clinical and a few experimental reports can be found in the literature. It seems probable that, in the average case, inadequate amounts of several rather than of single vitamins are concerned in the production of the deficiency syndrome. Deficiency of vitamins in the organism may be produced by inadequate amounts in the diets, by deficient absorption from the intestinal tract or by increased consumption during rapid growth or during a severe disease. In at least two of the postoperative cases presented by the authors, prolonged vomiting was apparently the basis for the nutritional deficiency. The administration of vitamins caused the absorption of hemorrhages in the retina in their second case of pernicious vomiting of pregnancy before the interruption of the pregnancy. The hemorrhages in Stander's case, present three weeks after the induced abortion, suggest the influence of nutritional deficiency in the causation of the retinal hemorrhages. It seems probable that acute optic neuritis, hemorrhages in the retina, paralyses of ocular muscles and nystagmus may be caused by dietary or nutritional deficiencies. These deficiencies may develop rather rapidly, especially in the presence of persistent vomiting and the resultant lack of absorption of food.

American Journal of Psychiatry, New York

93: 757-1008 (Jan.) 1937

Pathologic Changes in Senile Psychoses and Their Psychobiologic Significance. D. Rothschild, Foxborough, Mass.; with technical assistance of M. A. Trainor.—p. 757.
General Semantics: Implications of Linguistic Revision for Theoretical and Clinical Neuropsychiatry. D. G. Campbell, Chicago.—p. 789.
Nursing Schools in Psychiatric Hospitals: Report of Survey. Harriet Bailey.—p. 809.
*New Treatment of Schizophrenia. M. Sakel, Vienna, Austria.—p. 829.
Chorea Gravidarum: Study of Psychogenic Factors Therein, with Report of Case. W. C. Weigner, Providence, R. I.—p. 843.
Speech as Emergent Specificity. J. H. Muyskens, Ann Arbor, Mich.—p. 857.
Mental Reactions of Normal Children to Physical Illness. W. W. Barraclough, Toronto.—p. 865.
Importance of New Developments in Machine Operations. J. S. Plant, Newark, N. J.—p. 879.
Psychogenic Factors in Overt Homosexuality. G. W. Henry, New York.—p. 889.
Psychologic Aspects of Physiotherapy. W. C. Menninger and Mildred Cutrer, Topeka, Kan.—p. 909.
Observations on Circulating Blood Volume in Schizophrenia, Manic-Depressive Psychosis, Epilepsy, Involutional Psychosis and Mental Deficiency. I. Finkelman, Chicago, and D. Haffron, Elgin, Ill.—p. 917.
Brain Potentials from Normal Subjects, Stutterers and Schizophrenic Patients. L. E. Travis and W. Malamud, Iowa City.—p. 929.
Automatic Control of Continuous Bath. W. E. Lang, Westborough, Mass.—p. 937.
Study of Alcoholism in Women. J. H. Wall, White Plains, N. Y.—p. 943.
Therapy in Catatonia: Effects of Combining Caffeine Sodiobenzoate with Sodium Amytal. S. B. Broder, Chicago.—p. 957.

Sakel's Treatment of Schizophrenia.—Sakel's treatment of schizophrenia consists essentially of the production of consecutive daily shocks with high doses of insulin; these occasion-

ally provoke epileptic seizures but more frequently produce somnolence or coma, accompanied by profuse perspiration—in any case a clinical picture that would ordinarily be alarming. The patient may show sudden improvement after the first shock, but more often there is a gradual improvement after a series of shocks. In this phase of treatment, however, the response is still fluctuating and unstable, so that further treatment is necessary to stabilize the remission. The method of treatment may be dangerous in unskilled hands. When it is considered that the patients who come for treatment are generally looked on as lost or very seriously ill in any case, there is good justification for attempting a therapy, however dangerous, which gives some promise of success. The experience that the author has had up to now is promising.

American Journal of Surgery, New York

35: 467-670 (March) 1937

Osteogenic Tumors of Scapula. B. L. Coley, New York.—p. 471.
Simplicity in Treatment of Fractures of Upper End of Humerus. E. L. Eliason and J. Johnson, Philadelphia.—p. 478.
*Weak Foot: Pathogenesis and Treatment. J. Graham, Springfield, Ill. —p. 486.
Chronic Hyperthyroidism. T. C. Davison, Atlanta, Ga.—p. 509.
*Simple Mastectomy in Cancer of Breast. E. J. Grace, Brooklyn.—p. 512.
Differential Diagnosis of Benign and Malignant Small Lesions of Stomach: Attempt to Evaluate Statistically Various Symptoms and Laboratory Findings. M. W. Comfort and W. L. Butsch, Rochester, Minn.—p. 515.
Acute Perforations of Stomach and Duodenum: Study of Thirty-Six Cases. C. W. Woodall, Schenectady, N. Y.—p. 524.
Surgical Lesions of Stomach: Immediate and Late Results in 100 Consecutive Cases. C. B. Rentschler, Reading, Pa.—p. 529.
Acute Intestinal Obstruction. J. L. DeCourcy, Cincinnati.—p. 532.
Clinical Aspects of Mesenteric Adenitis. V. L. Schrager, Chicago.—p. 539.
Treatment of Pruritus Ani by Injection. W. Lieberman, Brooklyn.—p. 546.
Nomenclature in Plastic Surgery. E. M. Finesilver, Newark, N. J. —p. 549.
*Therapeutics of Maggot Active Principle: Clinical Application in 1,020 Cases. S. K. Livingston, Hines, Ill.—p. 554.

Weak Foot.—Success in the treatment of the common type of weak foot due to poor posture depends on the intelligent employment by the physician and the patient of five separate but simultaneous lines of attack: maintenance of correct posture, proper use of the foot in walking, exercises for the reeducation of the foot and leg muscles, properly constructed shoes that fit correctly, and a temporary crutch in the form of an arch support. Graham has in mind the uncomplicated weak foot. In the treatment of the complicated weak foot there is a basic attack directed always toward the primary distortion of physiology, maladaptation of the weight bearing mechanism to the superstructure, and a secondary attack varying in nature with the complication. No matter whether the clinical condition present in a given case is simple weak foot or complicated weak foot, the basic attack is the same, regardless of variations that must be made in the secondary attack. The common type of weak foot is that associated with poor body posture. The sequence of events appears to be slouch posture with a forward shift of the line of gravity of the body, lumbar lordosis, increased pelvic tilt, internal femoral rotation, internal astragalar rotation, and valgus relation. Absolute cooperation of the patient is essential, since the plan of treatment has as its goal the development in the individual of a consciousness of posture that is followed eventually by a posture reflex. This necessitates first of all the instruction of the patient in the elements of correct posture. The "wall and chair maneuvers" are described in this connection. Development of neglected muscles through exercises enables the patient to pull himself into correct posture and to stay there. This act in time becomes reflex. The foot cannot function efficiently when the shoe covering it is not properly constructed and correctly sized. Patients for postural correction must be selected with care, since readjustment of a posture that has been maintained for years is a serious matter.

Simple Mastectomy in Cancer of Breast.—An evaluation of the results of radical surgery, when studied comparatively with a corresponding group of cases with simple mastectomy and radiation, leaves Grace convinced that the rôle of surgical radicalism is far removed from surgical idealism. A series of forty simple mastectomies with irradiation, after a five year follow up, is compared with other larger series of radical mastectomies. The latter groups represent a total of 1,276 radical mastectomies. There was a marked similarity in the end results, whether radical or simple mastectomy is done. The cellular structure of the tumor is the dominant factor, and surgical technic, irrespective of the extent of its radicalism, plays a definitely secondary part.

Therapeutics of Maggot Active Principle.—Livingston points out that 415 cases have been treated by living maggots and maggot active principle in combination, and 605 cases by maggot extract alone. Living maggots have been used only in large suppurative, copiously discharging wounds because of the mechanical difficulty of introducing a fluid into such a wound. When the exudate decreased, the maggot active principle was substituted for the living larvae and used either as a drip or as a wet pack. The wounds, when stimulated by maggot active principle following a débridement or a radical sequestrectomy, quickly filled with pink healthy granulation tissue; granulations sprang from the depths of the medullary cavity and from the walls of the wound, completely filling the cavities to the level of the skin. Epithelization completed the process without a depressed scar. The period of healing was from six to twenty weeks. The extract is stable at room temperature and was found to be still active when tested after six months on the shelf. The psychic trauma of living maggots is eliminated. It is a more powerful growth stimulant than any one of its ingredients, which were used alone as a control. The extract has a wider applicability than living maggots. Maggot extract was successful in only 5 per cent of the cases of tuberculous origin; there was failure to respond satisfactorily in 12 per cent of the cases of chronic pyogenic osteomyelitis having a large involucrum incorporating multiple foci of infection, cases of chronic pyogenic osteomyelitis undergoing molecular necrosis or cases having positive blood cultures.

Am. J. Syphilis, Gonorrhea and Ven. Dis., St. Louis

21: 121-240 (March) 1937

Research Needs in Control of Syphilis. A. M. Chesney, Baltimore.—p. 121.
To What Extent Can a Bacteriologist Contribute to Control of Venereal Diseases? H. Zinsser, Boston.—p. 132.
Comparative Study of McNeil and Witebsky Antigens Used in Serodiagnosis of Gonorrhea. A. Hollander, New York.—p. 140.
*Hyperpyrexia in Treatment of Keratoderma Blennorrhagicum. E. Epstein, Los Angeles.—p. 148.
Optimal Treatment for Early Syphilis, Based on Twenty Year Trial of Arsphenamine, Bismuth and Mercury Preparations. A. B. Cannon, New York.—p. 155.
Microscopic Pathologic Appearance of Aorta in Treated and Untreated Patients with Syphilitic Aortitis. B. J. Hood and C. F. Mohr, Baltimore.—p. 177.
Oral Administration of Stovarsol in Treatment of Experimental Syphilis of Rabbit. P. D. Rosahn and J. E. Kemp, Chicago.—p. 180.

Hyperpyrexia in Treatment of Blennorrhagic Keratoderma.—Epstein obtained a successful result in a case of blennorrhagic keratoderma by inducing hyperpyrexia artificially. The method employed to raise the temperature was a slight modification of that described by Norman Epstein and Cohen in 1935. An oral temperature higher than 106.5 F., a pulse rate more rapid than 160 beats per minute or a respiratory rate in excess of 40 per minute is considered to be at a dangerous level. When the oral temperature reaches 103.5 F., the heat cradle is removed and the rubber sheet and the large blanket are then wrapped directly around the patient. A hypodermic injection of one-third grain (0.02 Gm.) of the hydrochlorides of the alkaloids of opium, principally morphine, is given when the cradle is removed in order to control restlessness. Fluids are administered orally during the treatment, 200 cc. of warm lemonade (100 F.) being given after each recording of the pulse, temperature and respiratory rate. The lemonade is sweetened to taste and 0.6 per cent sodium chloride is added to aid in replacing the chlorides lost through perspiration. When the patient has spent four hours at a temperature in excess of 103.5 F., the blankets are removed and the patient is given an alcohol sponge bath. Treatments are usually repeated every other day. The oral administration of cod liver oil was the only other therapeutic agent employed in the treatment of the patient. Prompt relief from gonorrheal urethritis, arthritis and keratodermia were obtained.

American Review of Tuberculosis, New York

35: 281-410 (March) 1937

Further Studies on Purified Protein Derivative of Tuberculin (P. P. D.): Its Diagnostic Value and Keeping Qualities in Dilutions. E. R. Long and Florence B. Seibert, Philadelphia.—p. 281.
Comparative Study of Old Tuberculin and Purified Protein Derivative. R. E. Plunkett and W. Siegal, Albany, N. Y.—p. 296.
*Treatment of the Child with the Adult Type of Active Pulmonary Tuberculosis: Plea for Compression Therapy. M. Gross and S. B. English, Glen Gardner, N. J.—p. 303.
Tuberculous Pneumonia and Diabetes Mellitus: Report of Case Treated with Artificial Pneumothorax and Insulin with Marked Improvement. H. C. Shepardson and C. A. Noble Jr., San Francisco.—p. 323.
*Tuberculosis and Malignant Tumors. R. M. Moore, Columbia, Mo., and H. C. Schmeisser, Memphis, Tenn.—p. 336.
Home versus Preventorium in the Management of Tuberculosis Contracts. L. J. Moorman, Oklahoma City.—p. 347.
Dissociation of Tubercle Bacilli. W. H. Oatway Jr., Madison, Wis., and W. Steenken Jr., Trudeau, N. Y.—p. 354.
Dissociation of an Old Homogenized Culture of Human Tubercle Bacillus. R. C. Rosenberger, Philadelphia.—p. 365.
Destruction of Certain Constituents of Tubercle Bacillus by Bacterial Enzymes. F. J. Wallace and H. A. Bray, Ray Brook, N. Y.—p. 370.
Biologic Antagonism Between Smegma Bacilli and Tubercle Bacilli. H. Sewall and E. C. de Savitsch, Denver.—p. 375.

Treatment of the Child with Adult Type of Active Pulmonary Tuberculosis.—Gross and English have treated forty-nine cases of the adult destructive type of disease in the juvenile by some form of compression therapy for a period of from six months to five years. Their ages have been from 5½ to 15 years. Whenever artificial pneumothorax could be given, the results were far superior to those of any other type of compression therapy. Twenty-four patients received unilateral collapse with two deaths. Both fatalities occurred in the first month, being far advanced, hopeless cases. Twelve patients received unilateral compression which required an additional phrenic crushing to help close the cavernous processes because of interfering adhesions. In this group there were four deaths, three of the patients dying after two years of unsuccessful collapse of the disease process and one patient one year after collapse was started. The last fatality had in addition an intrapleural pneumolysis followed by a putrid empyema. Five patients received bilateral artificial pneumothorax, with two fatalities. No free pleural space could be found in four patients and therefore phrenicophraxis was performed. In two cases the cavities are practically closed and in two others no improvement is noticeable. In four other cases, phrenic crushing was performed because it was deemed inadvisable to give artificial pneumothorax, owing to the far advanced, hopeless condition of the patients. Two are dead, one having died six months following entrance and the other eighteen months after admission in another institution. The third patient is in poor physical condition and has been at home for the last three and one-half years. The fourth patient has been in another institution for the last three years, ambulant but having active tuberculosis. In all the fatal cases there were persistent, positive sputum, marked pulmonary involvement and cavernous processes, making it impossible to get the disease under control from the very start. They were all progressive cases. The adult disease in juvenile cases is practically of the same type as that seen in adults with the exception of some peculiar, unexplained reason that the children do not seem to handle the disease as well. The procedure of choice is artificial pneumothorax. The authors' best results have been obtained in cases in which a free pleural space could be found and this procedure applied and adequate collapse obtained. The aim of those doing compression therapy, especially artificial pneumothorax, should be an optimal compression, conducive to successful collapse of the diseased lung. One should not hesitate to do bilateral artificial pneumothorax if indicated. These patients are generally in need of such procedures, and the outlook without compression is doubtful. Children having positive sputum should be separated from those having negative sputum, as cross infection can and does occur.

Tuberculosis and Malignant Tumors. — Moore and Schmeisser studied the incidence and relation of tuberculosis and malignant tumors in the same individual as seen from the protocols of 2,000 consecutive necropsies. Without regard to race, sex or age the 2,000 cases were divisible into three general incidence groups: 131 cases of malignant tumor, 480 of tuberculosis and 1,410 cases showing no evidence of tuberculosis or a malignant tumor. Therefore it will be seen that the total number of cases in which both tuberculosis and a malignant tumor existed numbered only twenty-one. If a comparison is made between this double-lesion group and the total number of cases in each of the two disease groups, it is found that 4.37 per cent of all people with tuberculosis also have a malignant tumor, while 16.03 per cent of all people with a malignant tumor also have tuberculosis. Therefore, while the incidence of the double-lesion group as compared to the total number of necropsies is relatively low, the incidence assumes greater importance when compared with the two disease groups in question.

Anatomical Record, Philadelphia

67: 271-398 (Feb. 25) 1937

Meningeal Relations of Hypophysis Cerebri: I. Relations in Adult Mammals. G. B. Wislocki, Boston.—p. 273.
Nature of So-Called Droplets Found Between Rod Outer Segments of Vertebrate Eyes. S. R. Detwiler and R. L. Zwemer, New York.—p. 295.
Vaginal Smear Picture, Sexual Receptivity and Time of Ovulation in Guinea-Pig. W. C. Young, Providence, R. I.—p. 305.
Experimental Studies on Spermatogenesis in House Sparrow, Passer Domesticus (Linnaeus). G. M. Riley, Iowa City.—p. 327.
Homeotransplantation of Guinea-Pig and Rabbit Adrenal Grown in Vitro. Lydia Lux, G. M. Higgins and F. C. Mann, Rochester, Minn.—p. 353.
Thyroid Gland of Normal Rat: Size, Dry Matter and Iodine Content. R. E. Remington, J. W. Remington and Sarah S. Welch, Charleston, S. C.—p. 367.
Study of Vascularity of Pituitary Body in Cat. Helen M. Stevens, Toronto.—p. 377.

Annals of Surgery, Philadelphia

105: 321-480 (March) 1937

Status of Injection Treatment of Hernia. O. H. Wangensteen, Minneapolis.—p. 322.
Ambulant Treatment of Hernia. A. F. Bratrud, Minneapolis.—p. 324.
Evaluation of Results of Injection Treatment of Inguinal Hernia: Review of Employment of Method at the University of Minnesota Hospital. F. S. McKinney, Minneapolis.—p. 338.
Injection Treatment of Hernia: Evaluation of Technic and Results. C. O. Rice, Minneapolis.—p. 343.
*Sterility Following Injection Treatment of Hernia: Determination of Its Incidence. C. E. Rea, Minneapolis.—p. 351.
*Value of Partial Pancreatectomy in Convulsive States Associated with Hypoglycemia. J. M. McCaughan and G. O. Broun, St. Louis.—p. 354.
Thyroid Gland in Hypoglycemia. N. A. Womack and W. H. Cole, St. Louis.—p. 370.
Variations of Blood Amylase During Acute Transient Disease of Pancreas. R. Elman, St. Louis.—p. 379.
*Value of Preoperative Irradiation in Tumor of Testis. A. Randall and A. E. Bothe, Philadelphia.—p. 385.
Shock Syndrome Following Subcutaneous Injection of Bile or Bile Salts. E. Andrews, H. N. Harkins, P. H. Harmon and Jeanne Hudson, Chicago.—p. 392.
Spinal Extradural Cysts. R. B. Cloward, Chicago.—p. 401.
Sacrococcygeal Teratoma. J. A. deVeer and J. Browder, Brooklyn.—p. 408.
Cancer of Tongue: Report of 187 Cases, with Analysis of Ninety-Eight Treated Principally by Surgery at the New York Skin and Cancer Hospital Between 1917 and 1935. A. S. Morrow, New York.—p. 418.
Care and Cure of Cancer Patients. B. R. Shore, New York.—p. 442.
Subastragalar Arthrodesis in Paralytic Deformities. W. R. MacAusland, Boston.—p. 452.

Sterility Following Injection Treatment of Hernia.—To study the possible sterility in cases of bilateral inguinal hernia treated by the injection method, Rea performed ejaculation tests. If this was unsuccessful, prostatic smears were examined for spermatozoa. In fifteen cases in which ejaculation tests were performed after treatment, all were normal. Ejaculation tests were obtained before and after treatment in two cases; one of the patients had had an operative repair on one side. In eight patients from whom prostatic smears were obtained, no spermatozoa were found. Three of these patients had a chronic prostatitis. Two patients, both of whom showed abnormal mental traits, complained of less libido three months and five years, respectively, after hernial injections. Of seventy-five cases of unilateral inguinal hernia, followed up to two years, only one patient complained of less libido after a course of sclerosing injections. As to impotence following injections, the type of patient is probably the most important factor. Sterility therefore does not appear to be a complication of the injection treatment of hernia. Fear of such an occurrence should not deter employment of this method in selected cases of inguinal hernia.

Partial Pancreatectomy in Convulsive States Associated with Hypoglycemia. — McCaughan and Broun advise that desperate cases of convulsive seizures associated with

hypoglycemia unrelieved by proper dietary and medical treatment be offered the opportunity afforded by surgical exploration. Adenomas if present may be removed, with excellent prospects for cure. If no tumors are found, the pancreas can be partially extirpated without undue risk. The amount to be removed will depend on the severity of the symptoms and the anatomic and pathologic conditions at hand. If the pathologic changes in the resected portion show islet hypertrophy or small adenomas, a case improved by resection can be offered the benefit of additional resection if conditions are favorable for further operative procedure. From a study of case reports in the literature it is evident that the end results of operations in cases with islet cell tumors are excellent, and in cases without adenomas the results, while much less satisfactory, are occasionally gratifying. The authors' results in their series were very disappointing and should dampen the enthusiasm of those who may be inclined to recommend surgery for the relief of any and all cases of hypoglycemia with nervous manifestations. Until a positive method for differentiating cases of pancreatic adenomas from other functional abnormalities of the islet cells, particularly those due to an imbalance between interrelated endocrines, is developed subtotal resections of the pancreas will continue to be unfavorable. The comparison of subtotal pancreatectomy for hyperinsulinism with the rationale of thyroidectomy for hyperthyroidism, as has been suggested by some, seems scarcely tenable in view of the uncertain and the generally unsatisfactory clinical results thus far reported in cases without adenomas of islet cell origin.

Preoperative Irradiation in Tumor of Testis.—Randall and Bothe feel that irradiation should precede surgery in tumors of the testicles but that it should never supplant it entirely. Irradiation of testicular tumors has a definite destructive effect on the immature embryonal cells but little or no effect on the differentiated types. These observations are in keeping with the laws governing cellular radiosensitivity. Regardless of the degree of clinical improvement, irradiation does not entirely destroy the neoplasm. In that class in which there are occasional viable cells remaining which appear to have the power of regeneration, it is felt that these tumors should be removed surgically, after the maximal regression from irradiation has been obtained. Procrastination after effective irradiation leads to disaster. The most favorable time for removal is usually between the fifth and the sixth week. Orchidectomy alone has given less than 10 per cent of cures; radical surgery by orchidectomy, with the removal of the entire lymph drainage area, has raised this figure to 19 per cent, and irradiation alone has produced 29 per cent of cures. Irradiation alone cannot be relied on to produce a cure because of resistant cells; nor can a cure be appreciated, measured or established by any clinical test. Therefore, orchidectomy is mandatory as a secondary procedure. Irradiation should be widespread in its application and should include the entire body above the primary lesion.

Archives of Internal Medicine, Chicago

59: 367-560 (March) 1937

Intake of Potassium, an Important Consideration in Addison's Disease: Metabolic Study. R. M. Wilder, E. C. Kendall, A. M. Snell, E. J. Kepler, E. H. Rynearson and Mildred Adams, Rochester, Minn.—p. 367.

Endemic Pneumonia: Pneumococcic Types and Their Variations in Incidence and Mortality for Adults and Children. J. G. M. Bullowa and C. Wilcox, New York.—p. 394.

Pulmonary Capacity in Lobar Pneumonia, with Especial Reference to Collapse Therapy. N. L. Kaltreider, H. Van Zile Hyde and W. W. Fray, Rochester, N. Y.—p. 408.

*Renal Insufficiency from Blood Transfusion: I. Relation to Urinary Acidity. E. L. DeGowin, Iowa City; H. F. Osterhagen, Detroit, and Marie Andersch, Philadelphia.—p. 432.

Changing Incidence of Tuberculosis of Tonsils. M. Catherine Magee, Ann Arbor, Mich.—p. 445.

Chest Leads in Electrocardiography. C. L. C. Van Nieuwenhuizen and H. A. P. Hartog, Utrecht, Netherlands.—p. 448.

Anatomic Features of Cardiac Orifice of Stomach, with Especial Reference to Cardiospasm. F. C. Lendrum, Detroit.—p. 474.

Diseases of Metabolism and Nutrition: Review of Certain Recent Contributions. R. M. Wilder and D. L. Wilbur, Rochester, Minn.—p. 512.

Renal Insufficiency from Blood Transfusion.—The interest of DeGowin and his associates in renal insufficiency following transfusion was stimulated by the occurrence in the University Hospital of two fatal cases of renal insufficiency following blood transfusion. As clinical experience and a review of the literature pointed to no promising therapeutic procedures in this condition, they attacked the problem experimentally. So far they have made studies on a series of twenty-eight dogs over a period of more than two years. More than 100 transfusions of dog hemoglobin have been given. It was found that when the urine is alkaline the intravenous injection of a large amount of dog hemoglobin into dogs seems to be innocuous. Under such conditions four dogs received a total of thirty-eight transfusions without harm. In one of the dogs, retention of nitrogen developed on three occasions when the transfusion was given while the urine was acid. When the urine is acid, transfusions of hemoglobin sooner or later produce renal insufficiency. Seven dogs died in coma from four to ten days after the transfusion, with the urea nitrogen values of the blood ranging between 120 and 362.6 mg. per hundred cubic centimeters and creatinine values between 4.6 and 15 mg. One dog was killed when recovering, the urea nitrogen content of the blood being 95 mg. Only one dog survived seven transfusions when on an acid diet. This syndrome, clinically and chemically, closely simulates that which develops in human beings with renal insufficiency resulting from hemoglobinuria. The cause of renal insufficiency resulting from hemoglobinuria in dogs appears to be the obstruction of the tubular lumens with masses of pigment derived from hemoglobin. These studies substantially confirm the experiments performed on rabbits by Baker and Dodds.

California and Western Medicine, San Francisco

46: 145-216 (March) 1937

Protamine Insulin: Some Clinical Studies: Calcium and Zinc Preparations with Insulin. B. Smith and W. H. Grishaw, Los Angeles.—p. 157.

Cardiospasm. H. B. Stephens, San Francisco.—p. 161.

Pancreatic Surgery. G. Thomason, Los Angeles.—p. 164.

Surgical Treatment of Stomach Ulcer. C. E. Phillips, Los Angeles.—p. 169.

*Osteomyelitis and Suppurative Joints: Salt Water Pool Treatment. A. Brockway, Los Angeles.—p. 174.

Osteomyelitis and Suppurative Joints.—Brockway does not believe that restoration of motion in a pus-ridden joint is aided by a long period of immobilization. It is in support of this contention that he describes the salt water pool treatment of bone and joint infections. While he has used this treatment in more than 100 cases of osteomyelitis, his discussion is concerned only with thirty cases of suppurative arthritis and osteomyelitis in which adjacent joints are also involved or when the disease process closely encroaches on joint structures. It is in these particular types of cases, in which preservation of joint motion is one of the vital issues, that the treatment has its greatest field of usefulness. Motion of an infected joint should not create muscle spasm. It should be painless and free of the fear of pain, and there should be no discomfort in the joint after the patient returns to bed. The use of the salt pool satisfies all these requirements. Motion in the water mechanically cleans away the infection, and because the water is hypertonic there exists an osmotic pressure between this fluid and the body fluids, so that drainage is encouraged and accelerated from the innermost depths of the wound. The salt concentration of the water in the pool is between 6 and 7 per cent. At this concentration the water sterilizes itself, as cultures have always been negative. The temperature of the pool is maintained at about 96 F. and the treatment lasts about thirty minutes. The floor of the pool should be sloping, so that weight bearing on an infected joint can be gradually increased. The weight of the body standing in water is the weight of that part of the body above the water line. For the eight cases of suppurative arthritis without bone involvement the average time required for healing was 2.8 months, and complete motion was restored in every case in an average of five months. It has been the author's practice in cases of osteomyelitis involving the ends of long bones and in which there is an accompanying suppurative arthritis to do a wide saucerization of the bone, removing as much of the diseased bone as possible and packing the wound lightly with petrolatum gauze, as in the Orr treatment. The joint is also opened and irrigated. A plaster cast or spica is applied, depending on the bone involved. The cast is removed in from four to six weeks, which is about the time the first

change of cast is made in the Orr treatment. A splint is applied and daily pool treatment started. In the twelve cases of this type return of motion was complete in four and one-half, normal in five, and ankylosis occurred in four. There were ten cases in which the osteomyelitic process, while not involving the joint proper, was in very close approximation to the joint, involving at times the epiphyseal plate. In these ten cases the disease process was in close approximation to thirteen joints. There was complete return of motion in seven, and in the other six the residual motion averaged about one-half normal.

Colorado Medicine, Denver

34: 153-224 (March) 1937

Septic Complications of Sore Throat. H. I. Laff, Denver.—p. 166.
Medical Treatment of Upper Respiratory Infections. D. Clark, Denver. —p. 173.
Current Activities of the State Board of Medical Examiners. V. A. Hutton, Florence.—p. 183.

Delaware State Medical Journal, Wilmington

9: 35-52 (March) 1937

Diagnosis and Management of Gallbladder Disease. T. G. Miller, Philadelphia.—p. 35.
Results of Gallbladder Examinations by Varying X-Ray Technic. B. M. Allen, Wilmington.—p. 43.
Preliminary Observations on Clinical Use of Zinc Protamine Insulin in Outpatients. L. B. Flinn, Wilmington.—p. 45.

Georgia Medical Association Journal, Atlanta

26: 89-128 (March) 1937

Congenital Hypertrophic Pyloric Stenosis: Statistical Study of 140 Cases. R. C. McGahee, Augusta.—p. 89.
Hemorrhages of the Brain: Their Differentiation and Treatment. J. C. Weaver, Atlanta.—p. 97.
When Antiseptic Surgery Came to Georgia. T. C. Davison, Atlanta.—p. 102.
History of Urology in Georgia. S. T. Brown, Atlanta.—p. 105.
*Dissecting Aneurysm of Aorta. E. B. Agnor, Atlanta.—p. 108.
Corneal Ulcer and Episcleritis: Report of Cases. R. M. Nelson, Atlanta.—p. 112.
Treatment of Premature Systoles with Quinidine and Strychnine. J. E. Walker, Columbus.—p. 112.

Dissecting Aneurysm of Aorta.—Agnor groups clinical phenomena taking place in dissecting aneurysm of the aorta under four primary clinical features. 1. The mode of onset is characteristically abrupt. It follows at once, or within a few hours, many forms of physical stress. 2. Pain is the outstanding symptom. It is described as violent, sharp, knifelike, tearing or rendering, and is extreme in its intensity. It is usually precordial, but its segmental distribution is likely to be higher than the pain of coronary disease. Its radiation may be down the outer rather than the inner side of the arm. It is constant and continuous, and morphine alone will give relief. With the progress of the dissection there is pain in the back, in the abdomen, in the lumbar or sacral region and even running down the leg. 3. Among the abnormal circulatory phenomena there are various harsh, rumbling or hissing systolic murmurs heard over the heart and great vessels. The pulses are frequently unequal or absent in various regions. Bilateral blood pressure readings are helpful. Often one limb or part of a limb may become cool and pallid, and even gangrene may develop. 4. The effects of disturbances of circulation in other organs or systems are many. There may be complete obstruction of the carotid circulation with encephalomalacia, hemiplegia and death. The coronary circulation is less frequently interrupted. There may be sufficient compression of the renal arteries to produce anuria. Cases in which there was paralysis as a result of interference with the blood supply of the spinal cord have been encountered. There may be pain between the shoulder blades at the onset. The pain may be largely epigastric, and an acute peritoneal irritation may be suggested.

Iowa State Medical Society Journal, Des Moines

27: 93-138 (March) 1937

Perennial Vasomotor Rhinitis. H. J. Rinkel, Kansas City, Mo.—p. 93.
Environmentally Conditioned Behavior Problem. H. E. Weatherly, Iowa City.—p. 98.
Dependability of Wassermann and Kahn Tests in Diagnosis of Syphilis. M. P. Spanswick and R. G. Snyder, Iowa City.—p. 102.
Treatment of Paresis: Based on Analysis of 113 Patients. M. C. Wheelock, Cherokee.—p. 106.
Vaginal Ureterolithotomy. W. K. Hicks, Sioux City, and G. Maris, Hull.—p. 107.
Sudden Death. H. W. Morgan, Mason City.—p. 110.

Journal of Nutrition, Philadelphia

13: 235-338 (March 10) 1937

Study of Effect of Vitamin B and Iodine on Weight, Iodine Content and Structure of Thyroid Gland of Rat. Mary Doris Carpenter and G. R. Sharpless, Detroit.—p. 235.
Composition of Milk from Stock Rats and Apparatus for Milking Small Laboratory Animals. W. M. Cox Jr. and A. J. Mueller, Evansville, Ind.—p. 249.
Consideration of Nutritive State in Metabolism of Women During Pregnancy. Frances Cope Hummel, Helen A. Hunscher, Mary F. Bates, Priscilla Bonner, Icie G. Macy and J. A. Johnston, Detroit.—p. 263.
Determination of Vitamins B and G in Human Urine by Rat Growth Method. O. M. Helmer, Indianapolis.—p. 279.
Influence of Carbohydrate on Nitrogen Metabolism in Normal Nutritional State. P. S. Larson and I. L. Chaikoff, Berkeley, Calif.—p. 287.
Further Studies Concerning Formation of B Vitamins in Digestive Tract of Rat. N. B. Guerrant, R. A. Dutcher and R. A. Brown, State College, Pa.—p. 305.
Influence of Lack of Vitamin A in Diet on Phagocytosis Promoting Properties of Blood Serum. E. Gellhorn and Joan O. Dunn, Chicago. —p. 317.
Photometric Determinations of Urea, Uric Acid, Creatinine and Hemoglobin in Blood of Scorbutic Guinea-Pigs. Sue Potter Vilter and Ruth Johnstin, Wellesley, Mass.—p. 329.

Kansas Medical Society Journal, Topeka

38: 89-132 (March) 1937

Exomphalos. H. M. Glover, Newton.—p. 89.
Agranulocytosis. F. E. Angle, La Verne B. Spake and W. H. Algie, Kansas City.—p. 93.
*Potential Malignancy of Small Skin Lesions. R. L. Sutton Jr., Kansas City, Mo.—p. 97.
Aseptic Meningitis Following Spinal Anesthesia. H. N. Tihen, Wichita. —p. 100.
Recurring Inguinal Hernia. C. L. Wilmoth, Denver.—p. 101.

Potential Malignancy of Small Skin Lesions.—Sutton asserts that malignancy is not potential; it is there from the start or not there at all. "Cancer" does not connote a lesion that will eat one's head off in three weeks; it connotes a colony of cells derived from an altered mutant somatic cell, which may grow swiftly or slowly or not at all. The "warts" are not warts; they are cancer from the start. They do not degenerate, they grow. They do not become malignant; their cells are malignant. Malignancy resides in the cellular units of the lesion. Given the presence of a malignant condition, it is measured by their proliferative rate as compared with the proliferative rate of normal cells. The mutation theory of the origin of cancer is eminently satisfactory philosophically, biologically and practically. No better explanation of the cause of cancer will be evolved until the chemistry and physiology of chromosomes and their component genes is better understood. The cure of cancer lies in its early recognition and adequate treatment, preferably with the hot iron. Wide excision is the safest and most secure therapeutic measure, excepting lesions superficial enough to be blistered off without necessitating excision.

Maine Medical Journal, Portland

28: 43-70 (March) 1937

Three Outstanding Individualists. W. E. Tobie, Portland.—p. 43.
Functions of the County Medical Society and Its Value to the Profession. L. J. Wright, Bangor.—p. 50.
*Complications of Diabetes Mellitus and Their Treatment. J. O. Piper, Waterville.—p. 53.
Observations on Use of Protamine Insulin. H. S. Everett, St. Stephen, N. B.—p. 58.

Complications of Diabetes Mellitus.—Piper discusses coma, neuritis, infection, gangrene, arteriosclerosis and associated heart degeneration as the complications of diabetes mellitus. Diabetic coma must always be considered an emergency and treated as such. Before the use of insulin it was almost 100 per cent fatal and since the use of insulin it is almost 100 per cent curable if handled properly. The diagnosis of diabetic coma is established by always finding the blood sugar elevated to a high degree and the combining power of carbon dioxide decreased markedly. Neuritis is a troublesome complication of diabetes. There is no special treatment for this condition, except to control the diabetes in the best possible manner. The neuritis may persist for a long time after the diabetes is under control, but recovery almost always occurs. There is little evidence to show that diabetes is caused by infection but a great deal of evidence that it is made worse by it; in fact, mild diabetes may be turned into a very severe form of this disease. Infections are very prone to occur in the diabetic patient and advance rapidly. Hence a vicious circle

is set up. The diabetes is made worse by the infection and the infection is aided by the diabetes. In treating these infections this vicious circle must be broken and the best way is to incise freely all pus pockets and institute free drainage. The best known treatment for infection in the known diabetic patient is prophylaxis, by teaching the patient the proper hygiene of all parts of the body. The several types of gangrene in diabetes are the arteriosclerotic, obliterative endarteritic, embolic and obliterating thrombo-angiitic and diabetic. The diabetic form is distinctive from the others in that the gangrene spreads laterally as well as along the vessels or line of circulation. Circulation is always interfered with in these cases. Then if a very slight infection takes place, which may come from as small an injury as a cut on the toe from trimming the toenail, gangrene is apt to set in. Sometimes the infection seems to come from within. Conservative treatment can be carried out only on the diabetic gangrene, and this is probably successful only in the early cases. Conservative treatment does not offer much in the first three types of gangrene. The mortality of amputation cases is fairly high. Most of these patients die from septicemia and bronchopneumonia. Joslin states that the average span of life after amputation is two years. He believes that arteriosclerosis is secondary to diabetes and that the duration of the disease is an important factor in the production of it. He found that diabetes of a duration of five years or longer is practically always complicated by arteriosclerosis. It has been shown that arteriosclerosis progresses in the diabetic patient in spite of the proper treatment with diet and insulin. Every diabetic patient should receive a searching examination, especially relating to the condition of the heart muscle and for coronary damage. Distinct damage may be done by the use of insulin in the treatment of these cases, and death may ensue in some of them.

Medical Annals of District of Columbia, Washington

6: 29-52 (Feb.) 1937

Recent Advances in Proctology. G. W. Ault, Washington.—p. 29.
Endocrines in Relation to Tumors, with Especial Reference to Aschheim-Zondek Test in Teratoma Testis. J. W. Lindsay, E. C. Rice and M. A. Selinger, Washington.—p. 38.
Calcified Hydrocele. N. Belt, Washington.—p. 42.

Surgery, Gynecology and Obstetrics, Chicago

64: 593-720 (March) 1937

*Mammography: Roentgenographic Diagnosis of Breast Tumors by Means of Contrast Mediums. N. F. Hicken, Omaha.—p. 593.
Diffuse Colloid Goiter. C. A. Hellwig, Wichita, Kan.—p. 604.
Cancer of the Breast: Prognosis in Surgically Treated Cases. A. Graham, Cleveland.—p. 609.
Clinical and Laboratory Findings After Excessive Loss of Intestinal Fluid from Ileum. C. S. Welch, J. C. Masson and E. G. Wakefield, Rochester, Minn.—p. 617.
*Resistance of Sphincter of Oddi in the Human. H. Doubilet and R. Colp, New York.—p. 622.
Hydronephrosis in Infancy and Childhood: Clinical Data and Report of 101 Cases. H. L. Kretschmer, Chicago.—p. 634.
Frequency of Conceptions in Families Having Congenitally Malformed Children: Study of 208 Consecutive Families. D. P. Murphy, Philadelphia.—p. 646.
Clinical Study of Catgut in Relation to Abdominal Wound Disruption, with Test of Its Tensile Strength on Patients. H. P. Jenkins, Chicago. —p. 648.
Fractures of Os Calcis. R. F. Jaekle and A. G. Clark, Boulder City, Nev.—p. 663.
Arthroplasty in Ankylosis of Knee by Interposition of Patellar Flaps. J. Elgart, Kromeriz, Czechslovakia.—p. 673.
Neglected and Recurrent Basal Cell Epitheliomas of Face. H. W. Meyer, New York.—p. 675.
Significance of "Folded Fundus" Gallbladder. M. E. Lichtenstein, Chicago.—p. 684.
Prolapse of Gastric Mucosa Through Pylorus: Surgical Treatment. C. E. Rees, San Diego, Calif.—p. 689.
Safety Factor in Spinal Anesthesia. G. H. Pratt, New York.—p. 695.
*Pelvic Variations in 300 Primiparous White Women: Clinical Study and Proposed Classification. H. Thoms, New Haven, Conn.—p. 700.
How Surgery of Colon and Rectum Developed. F. W. Rankin, Lexington, Ky.—p. 705.

Mammography.—Hicken believes that contrast mammograms and aeromammograms have a definite diagnostic value. He presents seven cases. Injection of the estuaries is occasionally a tedious procedure and in some instances cannot be accomplished. No injection or manipulation should be done in the presence of an acute infection. As soon as the mammographic studies have been completed a gentle milking massage of the nipple expresses the major portion of the injected medium, thus minimizing the amount to be retained. Application of the breast pump has likewise proved effective in decompressing the injected lobules. In nearly every instance in which a lactating breast was injected the patient experienced some soreness and discomfort for a period of from twelve to twenty-four hours. In thirty-five instances there was no interference with the flow of milk, and no mastitis or infection occurred. The transitory pains were of a mild nature and easily controlled by the application of hot moist packs. Strict surgical asepsis should be practiced lest an infection be introduced. Diagnostically, the contrast mammograms are far superior to the soft tissue roentgenograms in the recognition of mammary tumors. In each of the seven cases presented the mammographic studies gave an excellent visual pattern of the offending neoplasms, while the soft tissue roentgenograms were either indefinite or completely void of information. Papillomas, simple retention cysts, cystic degeneration of the breast, galactoceles, carcinomas and retention mastitis were diagnosed by mammographic studies. Of the 314 mammograms made but one breast abscess resulted, and in this instance the patient had a pyogenic mastitis prior to injection studies.

Resistance of Sphincter of Oddi in Man.—Doubilet and Colp made measurements of the resistance of the sphincter of Oddi obtained in patients who have had a T tube intubation of the common bile duct. A method was developed for the kymographic recording at the bedside of the resistance of the sphincter to the flow of fluid in the duodenum. Advantage was taken in these cases to observe the effect of local application of drugs to the periampullary region of the duodenum and of hypodermic injections of the various drugs commonly used in clinical practice. Spasm of the common duct sphincter has been shown to exist in human cases. Ingestion of food does not cause sphincteric relaxation in the absence of the gallbladder. Duodenal lavage with magnesium sulfate causes relaxation of the sphincter. Instillation of diluted hydrochloric acid into the duodenum causes temporary sphincteric spasm. This reflex is prevented by atropinization. Morphine produces severe sphincteric spasm, which lasts more than three hours. This spasm is not influenced by atropine. Papaverine may produce a temporary relaxation of a spastic sphincter but ordinarily has slight effect. The effect of epinephrine on the sphincteric resistance was negligible.

Pelvic Variations in Primiparous Women.—Thoms emphasizes the advantages of applying the newer knowledge of pelvic variations to practical obstetrics and presents a survey of the results in 300 primiparous white women who have been delivered consecutively at full term in whom roentgenometry of the pelvis has formed a part of the antepartum examination. He has used roentgenometric methods almost as a routine for nearly four years, and he is convinced that their use has simplified many obstetric problems. For example, in none of the cases presented was "the test of labor" used and, from the fact that cesarean section was performed only six times in 300 consecutive primiparous women, it appears that radical measures were not substituted for the more conservative procedures. Exact dimensions of the pelvis as revealed by roentgenometry are not a substitute for careful obstetric judgment as developed by clinical experience. The information thus obtained, like paint on an artist's easel, must be "mixed with brains." The employment of the contour of the superior strait as a basis for classification will allow all but the most abnormal pelves to be readily grouped. If other features of obstetric importance present themselves, such as the male type of sacrosciatic notch, narrow forepart, narrow subpubic angle, and forward displacement of the lower sacrum, these features may be noted. Every woman who is expecting her first baby deserves the advantages offered by roentgenometry of the pelvis.

Tennessee State Medical Assn. Journal, Nashville

30: 41-82 (Feb.) 1937

Uretero-Enterostomy: Combination of Coffey, Ferguson and Brenizer Methods. L. W. Edwards and H. L. Douglass, Nashville.—p. 41.
Diphtheria Control Program for Tennessee. W. C. Williams, Nashville.—p. 49.
Present Status of Surgery of Autonomic Nervous System. T. D. McKinney, Nashville.—p. 51.
The Management of Glaucoma. A. H. Benz, Chattanooga.—p. 57.
Obesity and Malnutrition. H. B. Gotten, Memphis.—p. 61.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Anaesthesia, Manchester

14: 45-92 (Jan.) 1937

Pulmonary Complications Following Nasal Endotracheal Anesthesia. C. J. M. Dawkins.—p. 45.
Preventable Mortality and Morbidity in Anesthesia. H. Grant-White.—p. 55.

British Journal of Experimental Pathology, London

18: 1-82 (Feb.) 1937

Myxoma and Shope Fibroma: I. Histology of Myxoma. E. W. Hurst.—p. 1.
Id.: II. Effect of Intracerebral Passage on Myxoma Virus. E. W. Hurst.—p. 15.
Id.: III. Miscellaneous Observations Bearing on Relationship Between Myxoma, Neuromyxoma and Fibroma Viruses. E. W. Hurst.—p. 23.
Further Studies on Antigenic Differences in Mouse Erythrocytes. P. A. Gorer.—p. 31.
Influenza Virus on Developing Egg: IV. Pathogenicity and Immunizing Power of Egg Virus for Ferrets and Mice. F. M. Burnet.—p. 37.
*Influenza: Further Experiments on Active Immunization of Mice. C. H. Andrewes and W. Smith.—p. 43.
Improved Precipitation Reaction Viewing Apparatus. L. C. Nickolls and J. C. Thomas.—p. 55.
Experimental Renal Lesions and Blood Pressure in Rabbits. R. W. Scarff and M. McGeorge.—p. 59.
Antigenic Composition and Virulence of Bacterium Typhosum Grown on Chemically Defined Medium. G. P. Gladstone.—p. 67.

Experiments in Prophylaxis of Influenza.—Andrewes and Smith carried out experiments on mice with a view to obtaining the most favorable antigen for trial as a prophylactic for influenza in man. Their objectives were to obtain a suspension with as high a virus content as possible, to purify this by freeing it from undesirable constituents and to inactivate the virus, if possible, without destroying its antigenic value. Subcutaneous and intraperitoneal inoculation of living influenza virus into mice confers on them substantial immunity against intranasal infection. Influenza virus can be purified partially by washing on a collodion membrane without great loss of titer; this washed virus immunizes mice as effectively as does crude virus. Influenza virus inactivated by 1 : 5,000 or 1 : 10,000 formaldehyde immunizes mice almost or quite as effectively as does living virus. Virus inactivated by formaldehyde as strong as 1 : 1,000 still makes a good vaccine and keeps its potency, at least in part, for two months in the cold. Influenza virus that has been both purified by washing and inactivated by formaldehyde makes a relatively poor vaccine for mice. Preliminary experiments on five human beings indicate that subcutaneous inoculation of influenza virus inactivated with formaldehyde will produce in at least some subjects a substantial rise in their neutralizing antibodies for influenza virus. The W. S. strain (unfiltered suspensions) of influenza virus appears in the course of passages through mice to have undergone a rather sudden spontaneous change of such a nature that it is now possible to obtain filtrates of from ten to 100 times as high a titer as formerly.

British Journal of Tuberculosis, London

31: 1-48 (Jan.) 1937

Technic of Thoracoplasty. H. M. Davies.—p. 3.
Sympathetic Shock in Thoracoplasty: Preliminary Note. F. R. Edwards.—p. 7.
Surgery in Closure of Tuberculous Lung Cavities. T. H. Sellors.—p. 13.
*Spontaneous Healing of Cavities in Pulmonary Tuberculosis: Influence of Altitude. B. Hudson.—p. 18.
*Influence of Administration of Vitamin C on Blood Sedimentation and Sensitivity to Tuberculin. F. H. Heise, G. J. Martin and S. Schwartz.—p. 23.
Study of Certain Factors Affecting Sedimentation Test. Mary F. Lockett.—p. 31.

Healing of Cavities in Pulmonary Tuberculosis.—Hudson asserts that the most desirable way of causing the obliteration and healing of a cavity is by rest, climatic treatment and time. This natural healing certainly may occur and is without any doubt favored by residence in the Alpine climate. Usually, if closure is going to take place in this climate, it shows signs of doing so fairly rapidly—in from three to six or seven months. If after that time no sign of change, alteration in shape or diminution of the size of the cavity can be seen, it is very unlikely that it will close by natural means. Owing to the altitude of the Alps, the air is rarefied and the barometric pressure lower than at sea level; therefore the partial pressure of oxygen is correspondingly diminished. The physiologic effect of this is that breathing becomes deeper in order that the tissues may receive their proper oxygenation. For the same reason the blood changes its character, the red cells and hemoglobin showing an increase. The total amount of the blood is also actually augmented. The air, being drier, has a stimulating effect on the respiratory membranes. There is also a remarkable absence of wind and dust, especially during the winter months when the snow is on the ground. The Alpine climate exerts considerable influence on the metabolism and general health of a patient, and locally on the respiratory mechanism and membranes.

Influence of Vitamin C on Sensitivity to Tuberculin.—Heise and his co-workers determined the influence of vitamin C on the blood sedimentation rate and the tuberculin skin test in thirty tuberculous patients; six were used as controls. The urinary excretion of vitamin C was previously determined in each from a twenty-four hour specimen of urine. The sedimentation rates were determined immediately before the use of vitamin C and again after the final injection. Preliminary subnormal urinary excretion of vitamin C was demonstrated in nineteen of those receiving added vitamin C and in all the controls. Of the nineteen with preliminary subnormal urinary excretion of vitamin C, 47 per cent showed a significant decrease and 10 per cent an increase in sedimentation rate following vitamin C injection; 43 per cent showed no change. Of five patients with previously normal vitamin C urinary excretion, none showed significant changes in the sedimentation rate after injection of vitamin C. No alteration in the sedimentation rate was observed in the six controls after a period of five days. It seems that in a large number of cases a condition of hypovitaminosis C may influence the sedimentation rate. In the study of the effect of vitamin C on tuberculin skin sensitivity, sixteen patients were given a test with sufficient tuberculin to cause only a mild intradermic reaction; six of these patients were used as controls and received no cevitamic acid. A distinct decrease in sensitivity to the same dose of tuberculin was found after the patient received cevitamic acid, and those receiving cevitamic acid responded less acutely to a retest with stronger tuberculin than did the controls. The average increase in the twenty-four hour erythema readings in the controls was 351 sq. mm., as contrasted with 76 sq. mm. increase in those receiving cevitamic acid. At forty-eight hours the differences were not so marked. The observations indicate that in the presence of saturation with cevitamic acid tuberculin sensitivity becomes less.

British Medical Journal, London

1: 311-374 (Feb. 13) 1937

Progesterone in Preeclamptic Toxemia. J. M. Robson and S. J. Paterson.—p. 311.
*Relation Between Hypochromic Anemias and Iron Deficiency. J. F. Brock.—p. 314.
Treatment of Gonorrhea with Specific Antitoxin. T. Anwyl-Davies.—p. 321.
Outbreak of Food Poisoning in an Institution. A. R. Culley.—p. 325.
Treatment of Depressed Fractures of Malar Bone. A. B. K. Watkins.—p. 326.

Relation Between Hypochromic Anemias and Iron Deficiency.—Brock uses the term "hypochromic anemia" to signify cases in which the blood picture is characterized by a low color index, hypochromia and microcytosis in the stained film, and a low mean corpuscular hemoglobin concentration. Examination of the facts of the distribution and exchange of iron in the body lends support to the view that the hypochromic anemias are the result of a state of iron deficiency in the body. The repeated association of hypochromic anemia with conditions that would be expected to lead to iron deficiency and the specific cure of the anemia with iron strongly favor the view that the hypochromic anemias are conditioned by a state of iron deficiency in the body. In considering the response of the blood to iron reaching the body by way of

the intestine in patients with hypochromic anemia, three selected cases are presented which illustrate different forms of response. Two cases, supported by a considerable body of corroborating evidence, suggest that large doses of iron which lead to the accumulation of a great excess of iron in the tissues are more effective in certain cases of hypochromic anemia than are smaller doses which allow of absorption of enough iron for hemoglobin formation. This mysterious efficacy of large doses is the baffling problem of the relation of the hypochromic anemias to iron deficiency. In some cases of hypochromic anemia, all that is required is sufficient iron by mouth to supply about 50 mg. daily for new hemoglobin and an undetermined but probably smaller amount for the replenishment of other tissues in the body which have become iron deficient. Another group of hypochromic anemias appears to respond only when iron is given in doses that lead to the accumulation in the body of amounts up to 200 mg. daily. There is at present no rational explanation of the necessity for such large doses. In resistant cases the dose should always be raised to the maximum before despairing of iron, and, since there are still many unexplained factors in the etiology of hypochromic anemia, a diet rich in protein and vitamins should always be insisted on.

East African Medical Journal, Nairobi

13: 295-330 (Jan.) 1937

Control of Syphilis. J. H. Sequeira.—p. 295.
Conjunctivitis and Its Treatment. R. J. Harley-Mason.—p. 306.
Breeding Habits of Some House-Frequenting Flies in Uganda: Notes. E. G. Gibbons.—p. 318.

Glasgow Medical Journal

9: 53-104 (Feb.) 1937

Therapeutics in Medical Practice. J. C. Middleton.—p. 53.
Thomas Reid: An Appreciation. A. M. Ramsay.—p. 66.

Guy's Hospital Reports, London

87: 1-144 (Jan.) 1937

Modification of Howard Jones Technic for Use of Percaine in Spinal Anesthesia. T. A. B. Harris and E. H. Rink.—p. 1.
Nature and Relationship of Functional Nervous Disorders to Rheumatism in Childhood. W. L. Neustatter.—p. 8.
*Studies on Chemistry of Gaucher's Disease: Analysis of Three Spleens. R. H. S. Thompson and G. P. Wright.—p. 30.
Studies on Tumor Formation. G. W. Nicholson.—p. 46.
New Study of Heat Production in Man. T. W. Adams and E. P. Poulton.—p. 107.

Studies on Chemistry of Gaucher's Disease.—Thompson and Wright obtained portions of spleen from three cases of Gaucher's disease for chemical analysis. The study confirms Lieb's discovery that the essential pathologic change is a specific storage of kerasin. The distended "Gaucher cells" may be merely the result of an absorptive action of the histiocytes on an increased blood kerasin. This hypothesis, however, involving an increased blood kerasin, merely shifts the mystery of the origin of the kerasin back one stage. An alternative theory, based on the assumption that the galactolipins are possible important intermediaries in the antibody responses of the reticulo-endothelial system, suggests itself as the result of recent work on certain aspects of immunologic chemistry. In view of the work of Drury and his collaborators it is conceivable that the galactolipins, whose physiologic rôle in the body is at present unknown, may play a part in the production of antibodies by the reticulo-endothelial cells, and that Gaucher's disease may be some "inborn error of metabolism" of the mechanism responsible for some stage in the antibody production of the body, whereby excessive quantities of kerasin are synthesized and stored by the reticulo-endothelial cells. It appears also that certain substances, soluble in the lipoid solvents and possibly related to the galactolipins, may play some part in the antigenic phenomena of both tissues and bacteria. Recent work on the chemistry of the tubercle bacillus also suggests that substances soluble in lipoid solvents play an important part in the immunologic responses initiated by this organism. Whatever the etiology of the condition, Gaucher's disease affords to the chemist opportunities of study of a class of compounds the biologic function and origin of which are at present almost completely unknown.

Irish Journal of Medical Science, Dublin

No. **133:** 1-48 (Jan.) 1937

Osteitis Deformans (Paget's Disease). P. T. O'Farrell.—p. 1.
Etiology and Treatment of Functional Uterine Bleedings. D. J. Cannon.—p. 11.
Granulosa Cell Tumor of Ovary: Case. B. Solomons.—p. 32.
Agranulocytosis. G. Bewley and S. V. Furlong.—p. 34.
Plummer-Vinson Syndrome: Dysphagia Associated with Anemia. T. O. Graham.—p. 38.

Journal of Hygiene, London

37: 1-152 (Jan.) 1937

*Infection of Air of Scarlet Fever Wards with Streptococcus Pyogenes. W. A. Brown and V. D. Allison.—p. 1.
Significance of Density, Refractive Index and Viscosity of Mineral Oils in Relation to Type and Degree of Animal Reaction. C. C. Twort, R. Lyth and J. M. Twort.—p. 14.
*Daily Water Consumption of Adults. H. E. Magee.—p. 30.
Serologic Diagnosis of Enteric in Inoculated. C. P. Beattie and J. S. Elliot.—p. 36.
Endotoxin of Meningococcus. G. F. Petrie.—p. 42.
Coagulation Between Bacillus Typhosus and Bacillus Paratyphosus B. J. Wyllie.—p. 70.
New Species of Micro-Organism (Proteus Melanovogenes) Causing Black Rot in Eggs. A. A. Miles, with an introduction by E. T. Halnan.—p. 79.
Serologic Study of Haemophilus Influenzae. A. E. Platt.—p. 98.
Fertility and Its Relation to Social Conditions: Study of Vital Statistics of London in 1930-1932. K. Mitra.—p. 108.
International Experiment on Widal Reaction. A. D. Gardner.—p. 124.
Pleuropneumonia-like Organism in Lung Lesions of Rats, with Notes on Clinical and Pathologic Features of Underlying Condition. Emmy Klieneberger and Dorothy B. Steabben.—p. 143.

Streptococcus Pyogenes in Air of Scarlet Fever Wards.—Brown and Allison experimented to isolate Streptococcus pyogenes from the air of scarlet fever wards. The method was to expose six blood agar plates to the air in each of four wards for three hours during three different periods of the twenty-four hours. The air was found to contain large numbers of hemolytic streptococci, most of which could be identified serologically. In one ward, in which the throats of the patients were swabbed, the serologic types identified were found to correspond to the types infecting patients in the ward. The degree of infection of the air with hemolytic streptococci showed considerable variation during the twenty-four hours. During the night, infection was absent or negligible; in the morning there was a steep rise followed by a slight fall in the degree of infection during the early afternoon. This variation is probably associated with the degree of air movement in the ward produced by the staff in the execution of their duties. Hemolytic streptococci were widespread in the ward air and the serologic types identified were not confined to the neighborhood of patients infected with a particular type. Though contact with infected hands, instruments, books and toys is probably of considerable importance in the transmission of infection with Streptococcus pyogenes, and though droplet transmission no doubt occurs as in other infections of the respiratory tract, the possibility of infection by the air cannot be dismissed, especially in multiple-bed wards in which patients infected with many different serologic types of hemolytic streptococci are being nursed.

Daily Water Consumption of Adults.—Magee determined the consumption of water and milk in the form of beverages, fluid foods and foods to which water or milk was added in cooking over a period of a week in two public assistance institutions containing 166 adults and three children. The consumption of water in the form of solid foods could not be estimated directly but was calculated from the results obtained from quantitative dietary studies of ten working-class families whose diet was adequate. The intake of water in solid food was calculated as 0.97 pint for men and 0.8 pint for women per head daily. Water formed in oxidation was assumed to be 300 cc. per head daily for men and 250 cc. for women. The total water consumed and formed in the body was therefore probably in the region of 4.93 pints (2,799 cc.) per head daily for men and 5.08 pints (2,885 cc.) per head daily for women. The water supplies of the institutions are soft and the amounts of calcium consumed in water were very small and are probably not of much nutritional significance. Hard waters are, however, probably of some importance as sources of calcium, especially when the diet otherwise is poor in this mineral. The amounts of milk consumed per head daily were in excess of

half a pint, 480 cc., and the amount of calcium consumed in the form of milk amounted to more than half the standard requirement for adults. The calcium intake in both institutions was probably adequate.

Journal of Laryngology and Otology, London

52: 65-152 (Feb.) 1937

Abnormal Forms of Tuberculosis Simulating Cancer of Larynx and Their Converse. A. Hautant.—p. 65.
Upper Dysphagia. D. R. Paterson.—p. 75.

Journal Obst. & Gynaec. of Brit. Empire, Manchester

44: 1-220 (Feb.) 1937

Fruits of Conservatism. V. Bonney.—p. 1.
Dysmenorrhea: the Oldest Theories and the Newest Treatment. D. J. Cannon.—p. 13.
*Treatment of Functional Uterine Hemorrhage by Means of Gonadotropic and Ovarian Hormones. T. N. A. Jeffcoate.—p. 31.
Use of Radium in Treatment of Benign Uterine Bleeding. P. Malpas.—p. 86.
Obstructed Labor Caused by Cervical Fibroid Undergoing Red Degeneration, and Complicated by Placenta Praevia and Prolapse of Fetal Cord: Case. C. Moir.—p. 105.
Treatment of Uterine Hemorrhage in Nonmalignant Disease, with Especial Reference to Choice of Surgical Operation versus Irradiation by Radium or X-Rays. L. Martindale.—p. 109.
Observation on Etiology of Abruptio Placentae and Its Response to Vitamin E Therapy. E. Shute.—p. 121.

Endocrine Treatment of Functional Uterine Hemorrhage.—With a view of assessing the value of the use of gonadotropic and ovarian principles in the control of functional uterine hemorrhage, Jeffcoate discusses eighty cases and reviews those recorded in the literature. The conclusions are that the use of ovarian and gonadotropic substances in the treatment of functional uterine hemorrhage does not produce the brilliant results which some authors have claimed for it. Until the present views and theories regarding the ability of estrogen to produce luteinization are confined or clarified, there is no theoretical basis for the administration of this substance in the treatment of functional uterine hemorrhage, unless this bleeding is associated with endometrial atrophy or represents merely a menopausal menstrual irregularity or slight loss at the time of ovulation. The results obtained with corpus luteum appear as good as those accruing from the use of gonadotropic substances. The type of bleeding showing the best response is that which is nonovular in type, as in hemorrhagic metropathia. Pubescent and adolescent hemorrhage is very amenable to the treatment, but menopausal hemorrhage shows very little response. At puberty the bleeding is controlled in 80 per cent of cases, but of all patients suffering from functional uterine hemorrhage only 66 per cent derive real benefit. The treatment controls the bleeding only temporarily: any subsequent amenorrhea or return to the normal cycle merely represents the ordinary probabilities of such cases. A return of hemorrhage is not infrequent and the organotherapy of the relapse is more difficult than that of the original bleeding. Any ill effects of treatment are considered rare and constitute no real disadvantage to the practice of organotherapy in these cases.

Lancet, London

1: 307-368 (Feb. 6) 1937

Progress in Treatment of Fractures. R. S. Woods.—p. 307.
*New Factor in Production and Cure of Certain Macrocytic Anemias. Lucy Wills, P. W. Clutterbuck and Barbara D. F. Evans.—p. 311.
Tuberculous Lesions in Association with Genito-Urinary Tuberculosis. M. C. Wilkinson.—p. 314.
Genito-Urinary Tuberculosis: Review of One Hundred Cases. F. Harvey.—p. 316.
Effect of an Anti-Vi Bacteriophage on Typhoid Infection in Mice. I. N. Asheshov, Joyce Wilson and W. W. C. Topley.—p. 319.
Estradiol Benzoate Therapy in Depressions at Menopause. M. S. Jones, T. N. MacGregor and H. Tod.—p. 320.

New Factor in Production and Cure of Certain Macrocytic Anemias.—The work described by Wills and her collaborators suggests that at least two hematopoietic factors are present in all those extracts which are active both in true pernicious anemia in man—some only after incubation with normal gastric juice—and in the nutritional macrocytic anemia of the monkey. It is only when the principles concerned are obtained in a relatively pure form that their different action becomes clear. This monkey anemia appears to be due, in part at least, to the lack of some other factor at present unidentified. It seems possible, however, that the two factors are concerned both in the monkey anemia and in pernicious anemia, and there is some evidence that this view is correct. For example, the more sustained response in the monkey to the crude extracts in comparison with the response to the more highly purified fractions, even when these are given in doses derived from far larger amounts of the parent substance than those used in the preparation of the cruder extracts, points in this direction. The fact that one monkey responded well to large doses of anahemin, when given immediately after the parenteral injection of the monkey fraction from yeast, also suggests that this principle is necessary for normal hematopoiesis in the monkey. The crude extracts may well contain both factors. If there is in the monkey suffering from macrocytic nutritional anemia a deficiency of both factors but a relatively greater lack of the new factor, the administration of the latter may activate the small supply of the liver principle still available in the body. The liver principle thus activated will cause an initial rise in the red cell count, which however will not be sustained when the small supply of the liver principle is exhausted. Accepting this explanation of the action of the new factor as correct, there might well be exceptional cases of pernicious anemia in which there is a deficiency not only in the liver principle contained in anahemin but also in the new hematopoietic factor. Such cases would either not respond to anahemin or make a poor unsustained response, but would respond to the cruder preparations. It is possible that the new factor is allied chemically to the hematopoietic substance earlier isolated by Cohn, McMeekin and Minot (1930) rather than to anahemin or hematopoietin.

Practitioner, London

138: 121-224 (Feb.) 1937

Constipation and Its Treatment. A. F. Hurst.—p. 121.
Carcinoma of Stomach and Intestines. E. C. Hughes.—p. 129.
Chronic Peptic Ulcer. T. Hunt.—p. 139.
Nervous Dyspepsia. D. T. Davies.—p. 151.
Digestive Disorders of Childhood. R. W. B. Ellis.—p. 159.
Indications and Technic of Pleural Aspiration. L. S. T. Burrell.—p. 169.
Odor and Color of Urine in Health and Disease. A. Abrahams.—p. 177.
Erythema Nodosum. A. H. Holmes.—p. 181.
Head Injuries. H. Jackson.—p. 188.
Influence of Altitude on Asthma. B. Hudson.—p. 202.
General Practice: VIII. Financial Side of Practice. By an Ex-Inspector of Taxes.—p. 206.

Quarterly Journal of Medicine, Oxford

6: 1-92 (Jan.) 1937

Study of Choline Esterase Activity in Nervous and Mental Disorders. H. Tod and M. S. Jones.—p. 1.
Fate of Large Doses of Iron Administered by Mouth. J. F. Brock and D. Hunter.—p. 5.
Acromegaly and Creatine-Creatinine Metabolism. I. Schrire.—p. 17.
Observations on Agranulocytosis. M. C. G. Israëls and J. F. Wilkinson.—p. 35.
*Prognosis Following Recovery from Coronary Thrombosis, with Especial Reference to Influence of Hypertension and Cardiac Enlargement. J. H. Palmer.—p. 49.
The Heart in Emphysema. J. Parkinson and C. Hoyle.—p. 59.
Magnesium Content of Serum in Renal Insufficiency. R. W. Brookfield.—p. 87.

Prognosis Following Recovery from Coronary Thrombosis.—Palmer studied the prognosis, with special regard to the influence of hypertension and cardiac enlargement, in 212 patients who survived an attack of coronary thrombosis by three months. More than one fourth were able to lead fairly active lives. In the remainder, angina of effort and dyspnea on exertion were the most important symptoms causing restriction of activity or invalidism, and these were operative in almost equal proportion. The active group lived longer following the attack than the restricted. The onset and incidence of angina after coronary thrombosis were not related to the height or changes in the height of the blood pressure or to the size of the heart. Angina of every grade of severity, including that compatible with a fairly active life, occurred in 39 per cent of the cases prior to the attack and in 58 per cent following it. The presence of subsequent angina did not affect the average duration of life. The incidence of dyspnea severe enough to cause restriction of activity followed closely the inci-

dence of cardiac enlargement. Congestive failure, which affected 13 per cent of the series, was found only in patients with enlarged hearts. Subsequent attacks of coronary thrombosis occurred in 28 per cent, about half of them during the first two years. The incidence of these attacks was unrelated to the height of the blood pressure but was somewhat higher in cases with enlargement than in those with hearts of normal size. About one fifth of these subsequent attacks were fatal. The duration of life following the attack averaged 4.2 years in sixty-five patients known to have died. Patients with hypertension appeared to have a somewhat more favorable outlook in this regard than those not affected similarly. The groups with cardiac enlargement and with congestive failure showed a slight reduction in the duration of life. Short summaries are given of the histories of eleven patients known to have lived for more than ten years following the attack. Blood pressure changes and the height of the blood pressure following recovery from an attack of coronary thrombosis are on the whole of little significance. The probability that following recovery from an attack of coronary thrombosis a patient will be able to lead a fairly active life is almost twice as great in those with normal sized hearts as in those with cardiac enlargement.

South African Medical Journal, Cape Town

11: 39-70 (Jan. 23) 1937

*Diseases Transferable to Man from Domestic Animals. P. R. B. Smith.—p. 43.
The Patient with a Lump in the Breast. P. J. Vivier.—p. 47.
Luxation of Innominate Bone. S. V. Humphries.—p. 53.

Diseases Transferable to Man from Domestic Animals.—Smith limits his discussion to diseases of domestic animals which are transferable to man. In most of these (rabies, anthrax, glanders, malignant edema, Malta fever, trichophyton skin diseases, platyhelminth and trichinella infection, paratyphoid, foot and mouth disease, psittacosis and pox) the danger can be averted by the adoption of simple precautionary measures. In others this is impossible without the help of the health department, which, through prescribed laws, reduces the danger to man of animal diseases and their diseased products to a minimum. In order to safeguard public health, the authorities must insist on having qualified men at the head of all slaughterhouses. This holds equally true for dairies and for the control of dairy cows. Regular examination of these cows should be one of the chief functions of a qualified man. Any milk from cows suffering from mastitis, enteritis, metritis, tuberculosis, and the like, should be condemned. The author points out that in most European countries all the food products derived from animals are under the strict supervision of qualified men. In this country, however, the municipalities have not even begun to enforce this supervision. It is only by the cooperation of medical and veterinary science that the public can be educated to demand their rights in this direction.

Tubercle, London

18: 193-240 (Feb.) 1937

Mixed Infections with Human and Bovine Tubercle Bacilli in the Human Subject. A. S. Griffith.—p. 193.
*Comparison of Different Mediums for Growth of Tubercle Bacillus. Herta Schwabacher.—p. 199.
Some Remarks on Pulmonary Fibrosis in Miners. Croizier and E. Martin.—p. 206.
Insulin Treatment in Moderately and Far Advanced Cases of Pulmonary Tuberculosis. A. L. Banyai.—p. 210.

Comparison of Different Mediums for Growth of Tubercle Bacillus.—In ascertaining which was the simplest and most suitable medium for the enumeration of tubercle bacilli of the bovine or human type in tissue suspensions, Schwabacher found the highest proportion of colonies developed on a medium containing three parts of egg yolk and one part of saline solution, 5 per cent of glycerin being added for the human type. The replacement of saline solution by heart extract broth or liver extract was unfavorable. Experiments with egg white showed that this substance had no marked bactericidal action and that the failure of tubercle bacilli to grow in its presence was due to its high alkalinity. If this was neutralized, development of the bacilli occurred. The nutritive value, however, of neutral egg white was very much less than that of egg yolk. The addition of 10 per cent carbon dioxide to the atmosphere in which the cultures were incubated was beneficial. The addition of 40 per cent oxygen had the opposite effect. For routine work a medium is recommended containing two parts of egg yolk to one of saline solution. If the medium is to be used for counting experiments in which discrete colonies are required, the proportion of yolk to saline solution should preferably be raised to 3:1.

Mémoires de l'Académie de Chirurgie, Paris

63: 215-266 (Feb. 24) 1937

Treatment of Acute Appendicitis. J. Vanverts and P. Minet.—p. 236.
Huge Lipoma of Transverse Mesocolon. I. Tanasesco.—p. 238.
Chronic and Protracted Staphylococcus Septicemia. M. Arnaud.—p. 240.
Femoral Embolus, Late Embolectomy, Arteriectomy, Death. Jeanneney and Darget.—p. 244.
*One Hundred and Thirty-Three Gastrectomies. J. Sénèque.—p. 247.

Gastrectomy.—In 133 gastrectomies, Sénèque applied the gastrojejunal anastomosis practiced by Hofmeister-Finsterer by closing the upper gastric opening, but following a different technic. After ligating the pyloric and gastroduodenal ends as well as the pertinent vessels, he first performs resection of the duodenum. The closing takes place in three planes. The stomach is then resected between the upper third and the lower two thirds. All residual contents of the gastric stump are emptied. Finally the upper gastric opening is closed, likewise in three planes, one total and two seromembranous. The stomach is fixed backward and forward to the submesocolic opening, linen thread being used during the entire procedure. A simple infrahepatic drain is left for forty-eight hours. Local anesthesia was used in most cases. The older patients withstood the operation much easier than the relatively younger. In ulcers of the lesser curvature the author chose gastrectomy in preference to gastro-enterostomy, owing to the dangers of hemorrhage, persistence of pain and the possibility of neoplastic transformation. Of thirty-three cases, thirty were cured. Five cases of pyloric ulcer and forty of duodenal ulcer were all cured. Improvements were observed in thirteen cases of multiple ulcers, two pyloric stenoses from myomas and one mediogastric stenosis from attempted suicide with formaldehyde. In ten cases of second gastrectomies and new enterostomoses, necessitated by ulcers persisting after the operation, the old anastomoses which were fixed to the mesocolon had to be freed again: the duodenal closure was resected and the stomach was sundered from the duodenum, and the jejunum was sutured; a gastrojejunal anastomosis was made after the resection of the stomach, and the stomach was fixed to the mesocolon. One of the ten died from strangulation of the small intestine.

Revue Méd.-Chir. des Maladies du Foie, Paris

12: 1-64 (Jan.-Feb.) 1937

Hepatobiliary Symptomatology of Migraine. G. Parturier.—p. 5.
Hepatobiliary Symptomatology of Constipation. G. Parturier.—p. 25.
*The Upper Cervical Point in Painful Hepatobiliary Syndromes. G. Parturier and Singer.—p. 51.

Upper Cervical Point in Painful Hepatobiliary Syndromes.—In the diagnosis of organic disturbances of the stomach and duodenum, Cade demonstrated in 1919 that a painful point at the upper right side of the neck is indicative of organopathy in the upper regions of the abdomen, notably of the liver and bile ducts. A similar point at the upper left side of the neck denotes disorder of the stomach and duodenum. Parturier and Singer have verified this point in all their 125 cases of hepatobiliary syndrome. It may be detected at a level with the third cervical vertebra. Posteriorly it is at the lower edge of the spinous process of the axis. Anteriorly it corresponds to the angle of the mandible. It may be reached by the palpating finger moving toward the internal part of the tubercle of the transverse process of the third cervical vertebra and behind the parotid to the vasculonervous bundle of the neck. This bundle escapes the pressure of the finger, which finally compresses the upper cervical ganglion. The point is not easily detected in adipose or short necked persons and the patient will have to assume various postures. The differential diagnosis includes cervical arthritis, rheumatism, osteitis, retropharyngeal abscess, pain from lymph nodes derived from angina or tonsillitis and finally the syndrome of the carotid sinus. Stimulation of the zone through external compression diminishes the number

of the heart beats and lowers the arterial pressure. Thus the authors often had the experience that the patient lost consciousness as a result of pressure with the examining finger. Pains in that zone could likewise be provoked in some cases through pressure on a diseased gallbladder, which disappeared with the amelioration of the abdominal symptoms.

Schweizerische medizinische Wochenschrift, Basel

67: 221-240 (March 13) 1937. Partial Index

Treatment of Neurologic Syndrome of Pernicious Anemia. G. Bickel.—p. 221.
*Treatment of Anosmia with Insulin. J. Berberich.—p. 226.
Conjugal Tabes with Similar Clinical Symptoms. A. Jörimann.—p. 226.
Physiologic Sterility in Women. H. J. Gerster.—p. 228.
Cold Skin as Symptom of Some Rheumatic Disorders. W. Bachmann.—p. 231.

Treatment of Anosmia with Insulin.—Berberich says that heretofore only the respiratory forms of anosmia have yielded to treatment, because it can be causal in that polyps, tumors, sinusal suppurations and conchal hyperplasias are removed. In the essential anosmias the treatment was mostly symptomatic, strychnine being most frequently used either by local, oral or parenteral application. It acts by way of increasing the central irritability. Several other physical and pharmacologic methods act by exerting a trophic influence on the olfactory mucous membrane. The author resorted to insulin in the treatment of essential anosmias. The treatment is begun by giving three times each week from 10 to 15 units of insulin. If necessary, this dose is increased to from 20 to 25 units. Of ten patients with essential anosmia nine were cured, and of three with partial hyposmia two were cured. In case of relapse, the same treatment was again effective. Recently the author has given small doses of iodine in addition to the insulin. In attempting to explain the mode of action of insulin, he points out that it increases the nervous irritability and also exerts a trophic influence on the mucous membrane. Moreover, insulin increases the water binding capacity of the tissues and promotes the secretion and the blood perfusion of the mucous membrane. The latter action is increased by the simultaneous administration of iodine. The author says that Spiess produced similar effects with insulin in dry catarrhs of the nose and pharynx.

Boll. d. Istit. Sieroterap. Milanese, Milan

16: 1-91 (Jan.-Feb.) 1937. Partial Index

Minimal Doses of Tubercle Bacilli in Normal and Tuberculized Guinea-Pigs: Superinfection. A. Guarna.—p. 1.
Amount of Diphtheria Antitoxin in Commercial Antiserums: Determination by Action on Diphtheritic Toxins of Various Origin. A. Ugo.—p. 16.
*Induction of Local Immunity of Peritoneum with Vaccines in Preperitoneal Connective Tissue. I. Scalone.—p. 26.
Gold-Tubercle Bacilli Complex: Immunitary Reactions Induced. D. Barbieri and C. Benso Ballabio.—p. 45.
*Nasal Mucosa in Production of Diphtheria Immunity. A. Della Vedova J.—p. 80.

Induction of Local Immunity of Peritoneum.—Scalone administered injections of increasing doses of staphylococcus vaccine to rabbits. The injections were given in the preperitoneal connective tissue of the abdominal wall. The number of injections given to the animals in different lots varied from two to five. The animals were killed in good general condition at the end of the experiment. A gelatinous fluid was obtained from the peritoneal cavity in all cases. The amount of intraperitoneal fluid was not in relation to the number of injections given. The fluid has bactericidal action on staphylococcus but not on colon bacillus. The more or less intense bactericidal action was not in relation to the amount of intraperitoneal fluid but was in relation to the number of injections administered. The greater the amount of vaccine given to the animal, the more intense the bactericidal action of the fluid for staphylococcus. Because of the absence of phlogosis in the peritoneum and the lack of bactericidal action of the fluid on the colon bacillus, the author concludes that the vaccines produced local immunity of the peritoneum.

Nasal Mucosa in Diphtheria.—In his experiments on guinea-pigs, Vedova found that inoculation of diphtheria anatoxin in the nasal mucosa results in a condition of allergy to diphtheria which can be changed to immunity by stimulating the immunity processes. Immunity develops more easily from subcutaneous inoculation than from nasal vaccination. Nasal inoculation results in simultaneous development of local and general immunity of the nasal mucosa and the skin, respectively.

Rivista di Patologia e Clin. Tubercolosi, Bologna

11: 85-160 (Feb. 28) 1937

Relations Between Infantile Scrofulosis and Tuberculosis, Especially According to Marfan's Views: Cases. G. Lenzi.—p. 85.
*Spleen Contracture from Epinephrine Injection in Splenomegaly in Tuberculosis. M. Bassi.—p. 95.
*Gastric Functions in Pulmonary Tuberculosis. G. Mazzuca.—p. 107.
Importance of Reduction of Pneumotometric Measures by Collapse Therapy. L. Menozzi.—p. 128.
Acute Global Aplastic Myelosis and Pulmonary Tuberculosis. A. M. Bonanno.—p. 134.
Spontaneous Parietal Pleurocele in Course of Artificial Pyopneumothorax: Case. G. Iurcev.—p. 138.

Spleen Contracture and Splenomegaly in Tuberculosis.—Bassi performed the epinephrine test in fifteen cases of splenomegaly in pulmonary tuberculosis. Contracture of the spleen took place in all cases within five and ten minutes after administration of an intramuscular injection of 1 mg. of epinephrine and lasted for about two hours. The less intense results from the test were those obtained in chronic forms of pulmonary tuberculosis. According to the author vasal hypotonia, with consequent congestion of the spleen, and cellular hyperplasia of the splenic pulp are the main pathogenic factors of tuberculous splenomegaly. Splenic sclerosis is frequent in cases of chronic pulmonary tuberculosis.

Gastric Functions in Pulmonary Tuberculosis.—Mazzuca found hypochlorhydria, hypo-acidity and hyposecretion in twenty-four patients suffering from gastric disturbances in pulmonary tuberculosis. The disturbances of the gastric functions were verified both in grave and in benign forms of the disease. The patients were placed in three groups and given intramuscular injections every other day as follows: Patients in the first group were given fifteen injections of a pepsin and sodium benzoate solution. (The author does not mention the dosage.) Patients in the second group were given twenty injections of pure pepsin (0.06 Gm. each for the first ten injections and 0.1 Gm. each for the last ten). Patients in the last group were given ten injections of a mixture made up of 0.04 Gm. of tryptophan and 0.08 Gm. of histidine. As a result of the treatments the amount of hydrochloric acid and the total acidity and pepsins in the gastric secretion improve. The gastric secretion, however, was never normal and the improvement induced by the treatment was temporary. The author calls attention to the fact that the effects of the treatment in gastric disturbances in pulmonary tuberculosis are different from those obtained from the same treatment in gastroduodenal ulcer.

Medicina, Mexico City

17: 81-106 (Feb. 25) 1937

Poison of Scorpion Centruroides Limpidus-Limpidus Karsch. E. Cervera and G. Varela.—p. 81.
*Blood Transfusion in Treatment of Melena Neonatorum. J. F. Franco.—p. 84.
Onchocerciasis. G. Casis Sacre and F. Rico Bustamante.—p. 88.

Blood Transfusion in Treatment of Melena Neonatorum.—According to Franco, blood transfusion is indicated in genuine melena neonatorum. The procedure in new-born infants is not as difficult as it is believed when the injection is made in the internal saphenous vein with a blunt pointed needle. It is advisable to use pure blood because anticoagulants may cause shock. Blood from the father is administered. If it is not available, a relative of the infant may be the donor, if of the same blood group. The amount of blood administered varies between 30 and 45 cc. for the first injection. Transfusion is repeated after forty-eight hours in cases in which slight hemorrhage persists. No further treatment is necessary. In the four cases reported by the author, the infants were at full term. All treatments that are advised for controlling melena neonatorum failed. The patients were in extremely grave condition from the frequency and abundance of the hemorrhages and blood vomiting. There was intense pallor, hypothermia, weak pulse and cardiac beats and superficial respiration in all cases. Hemorrhages and blood vomiting were rapidly and permanently controlled with consequent recovery of the patients. The age of the patients now varies between 2 months and 2 years. The infants are all normal.

Semana Médica, Buenos Aires

44: 473-552 (Feb. 18) 1937. Partial Index

Congenital Pseudo-Arthrosis. M. Viñas and L. T. Rivara.—p. 473.
*Congestive Primary Splenomegaly. L. Gravano.—p. 488.
Recovery of Function of Kidney After Elimination of Ureteral Calculus: Case. H. D. Berri, E. B. Bottini and H. Torres.—p. 509.
Large Calculus of Submaxillary Gland: Case. E. S. Mealla.—p. 525.
Kinetic Treatment of Gonococcic Arthritis of Knee Joint. L. Dubin. —p. 541.

Congestive Primary Splenomegaly.—According to Gravano, congestive primary splenomegaly is a chronic disease of slow evolution. It originates in disturbances of a venous system involving the portal and splenic veins (diffuse intraperiphlebitic form) or the splenic veins (cryptogenic form). The etiology of the former type is toxic or infectious, especially syphilis of the portal veins. That of the latter is unknown. The clinical latency of the disease is frequently interrupted by the production of gastro-intestinal hemorrhages, with consequent progressive anemia, and also ascites and fever. In certain cases the first attack is grave: The gastro-intestinal hemorrhages are severe and frequently repeated and there is intense anemia and ascites or rapid reproduction of ascites. The diagnosis is made by the clinical symptoms, the special type of splenomegaly and the intense positive results of the x-ray proof of the contraction of the spleen provoked by the injection of epinephrine. The prognosis of the disease is grave. It depends on the frequency and intensity of the gastro-intestinal hemorrhages, the intensity of the anemia and the degree of involvement of the liver in the pathologic process. The treatment varies with the form (cryptogenic or intraperiphlebitic) of the disease. In the cryptogenic form, splenectomy is indicated. It prevents further gastro-intestinal hemorrhages and controls anemia and further development of intraphlebitis of the portal and splenic veins. Splenectomy is contraindicated in the diffuse form of intraperiphlebitic congestive primary splenomegaly in which the pathologic process of the veins is due to an infection or intoxication. Medical treatment for controlling the infection or intoxication which exists in the given case is indicated. Two cases are reported by the author.

Beiträge zur klinischen Chirurgie, Berlin

165: 1-176 (Jan. 29) 1937. Partial Index

Esophageal Diverticulum of Unusual Form and Location (Necessitating a Posterior Mediastinotomy). F. Oehlecker.—p. 1.
*Tumors of Salivary Glands. H. L. van Vierssen Trip.—p. 17.
Unfamiliar Anaerobic Infections. J. Zeissler.—p. 48.
Id.: W. Stoeckenius.—p. 52.
Technic of Brain Tumor Operations. D. Kulenkampff.—p. 69.
*Symptoms and Pathology of Synovioma. A. Fehr.—p. 88.

Tumors of Salivary Glands.—Histologic studies of sixty-two cases of neoplasms of the salivary glands, treated in the last twenty-five years in the Surgical Clinic of the University of Groningen, when compared with the clinical histories, convinced van Vierssen Trip that the clinical course of any given case, particularly with regard to the question of malignancy or benignancy, cannot be predicated on the histologic evidence alone. Not infrequently parotid tumors exhibit only one sign of malignancy, such as recurrence after removal. Recurrence is a common characteristic of the mixed tumors. One likewise observes tumors which do not break through the capsule and do not recur after removal, and occasionally one sees tumors which do not recur despite the fact that they presented the picture of an infiltrating growth. The behavior of a so-called benign salivary gland tumor cannot be predicted until a number of years after the operation. Mixed tumors presenting a simple histologic picture run a mild course. There was only one fatal outcome in the twenty-three cases of that type. Mixed tumors of a complicated histologic type, on the other hand, are much more malignant. In a group of twenty-three cases of that type, one proved fatal after a rapidly malignant course and two after a somewhat more prolonged course. Cylindromas were rare and their prognosis is dubious. A mixed tumor that runs a rapidly malignant course may be classed as carcinoma. Carcinomas of the parotid gland are epithelial tumors of manifest malignity. The borderline between a mixed tumor and a carcinoma is indefinite and varies with the observer's point of view. When the character of the mixed tumor is predominantly sarcomatous, the tumor may be designated as sarcoma. Three benign tumors were observed: a fibroma and two neurinomas.

Synovioma.—Fehr reports four cases of synovioma observed in Clairmont's clinic (Zurich) and reviews nineteen cases from the literature. The tumor originates in the synovial tissue of the joint capsule, tendon sheath or bursa. It is sarcomatous in nature and is characterized by slow growth. The most common localization is the knee joint. Despite its slow growth the tumor is definitely malignant, recurs after the widest excision and, without exception, causes death by metastasizing in the lungs. The tumor cells are resistant to the roentgen rays. Early amputation is indicated. Microscopic examination alone can establish the diagnosis. Characteristic sections present cavities lined with epithelioid cells. In the later stages and particularly in the recurrences and in metastases one finds ordinary sarcomatous spindle cells of which the origin from the synovial tissue is no longer recognizable.

Klinische Wochenschrift, Berlin

16: 217-256 (Feb. 13) 1937. Partial Index

*Color Reaction of Cevitamic Acid. S. Dietrich and G. Hundhausen.—p. 222.
Studies on Pathogenesis of Diphtheria. K. W. Clauberg and K. Plenge. —p. 223.
Value of Dry Blood Reaction According to Chediak for Serodiagnosis of Syphilis. G. Böhme.—p. 225.
*Vitamin B_1 and Carbohydrate Metabolism. R. Tislowitz.—p. 226.
Significance of Reflex Irritability of Vagus in Angina Pectoris. P. Radnai and L. Mosonyi.—p. 228.
Some Factors to Be Considered in Developing Methods for Internal Treatment of Cancer. M. Reiss.—p. 231.

Color Reaction of Cevitamic Acid.—Dietrich and Hundhausen point out that Risak observed that after exposure to sunlight melanogen is eliminated in the urine. However, Risak's observation could not be corroborated by others and the authors found that the urine of patients who had been treated with large quantities of cevitamic acid produced the same blue coloration that is observed during the elimination of melanogen. Further investigations proved that this reaction is no more specific for cevitamic acid than for pyrrole and indole bodies. It is elicited by many substances that effect reduction. Low values detected with methods of titration cannot be ascribed to vitamin C, but only higher values that appear after tolerance tests. A tolerance test method has been devised for the detection of a vitamin C deficit. The size of the deficit is expressed by the number of days the tolerance test has to be continued until this elimination has been reached. The authors employed the continuous vitamin C tolerance test in ten cases and compared the titrimetric determination in the urine with the outcome of the blue test. The test is made like Legal's test for acetone with sodium nitroprusside, sodium hydroxide and glacial acetic acid. The authors advise against a too concentrated sodium nitroprusside solution and suggest a hot saturated solution diluted to one third. The sodium hydroxide should be added drop by drop until a red color appears, which is due to creatinine. Then the glacial acetic acid is added in drops until a blue or a bluish green coloration appears. The blue is the more intense, the higher is the cevitamic acid concentration. In case of low concentration it disappears rapidly, particularly if too much acid is added. A tolerance test of eight days' duration failed to produce a positive blue test in only two of the ten patients. They were patients with severe exophthalmic goiter. In these patients the titration method likewise revealed no noticeable increase in the reduction capacity of the urine. They express the opinion that a greater intake of cevitamic acid might explain Risak's observation.

Vitamin B_1 and Carbohydrate Metabolism.—Tislowitz found that the parenteral administration of vitamin B_1 reduces the fasting blood sugar of normal rabbits and dogs and that the hyperglycemia of dogs after dextrose tolerance tests is likewise reduced following the administration of this vitamin. Moreover, the insulin hypoglycemia of normal dogs is greater in the animals that have been given vitamin B_1 than in the controls. It is assumed that vitamin B_1 has a point of attack either in the hypophysis or in the central nervous system. After pointing out that an insulin activating effect of vitamin B_1 has been assumed by others, the author suggests that the favorable action of certain vegetable diets on diabetes mellitus might, among other factors, be due to the content in certain vitamins. He thinks that in case of abuse of alcohol, particularly in delirium

tremens, vitamin B_1 might be helpful. Finally he suggests that by making slight changes in the structural formula of vitamin B_1 it may be possible to develop an antidiabetic remedy that is suitable for oral administration.

Monatsschrift für Kinderheilkunde, Berlin

69: 1-342 (Feb. 18) 1937. Partial Index

Aspects of Marble Bone Disease: Familial, Benign Type of Diffuse Osteosclerosis. G. O. Harnapp.—p. 1.
Connection Between Rickets and Backwardness. T. Brander.—p. 47.
Connection Between Enlarged Tonsils and Backwardness. T. Brander.—p. 57.
Problem of Impairment of Facial Nerve During Diphtheria. H. Rave.—p. 73.
*Carcinoma of Hypophysis in Boy, Aged 9 Years. E. Wentzler.—p. 86.
Types of Bacilli and Clinical Aspects in Diphtheria. W. Becker.—p. 95.
*Protection Against Measles by Placental Extract. Ursula Moeller.—p. 101.

Carcinoma of Hypophysis in Boy.—Wentzler reports the clinical history of a boy, aged 9 years, in whom diabetes insipidus became manifest at the age of 5. The symptoms increased in severity, although there were occasional temporary improvements as the result of therapeutic measures. The boy died at the age of 9 and the necropsy revealed a carcinoma of the hypophysis with complete destruction of the posterior lobe and of the tuber cinereum. The anterior lobe of the hypophysis was normal, but the intermediate part of the hypophysis likewise exhibited considerable changes.

Protection Against Measles by Placental Extract.—Moeller reviews the history of the prophylactic value of placental extract in measles and then describes her own experiences with this type of prophylaxis in ninety-one children. In forty-four children between the ages of 3 months and 5 years, from 3 to 20 cc. of placental extract was injected between the fifth and the seventh day of incubation. Of these, only 20 per cent remained free from measles. Forty-seven children in another group were treated with from 10 to 15 cc. of placental extract on the second day of incubation and 97 per cent remained free from measles. The author thinks that, if correctly applied, placental extract provides an effective protection against measles. Placental extract is always available and, in case of early administration, it provides as much protection as convalescent serum and more than blood from adults. It represents a considerable advance in the prophylaxis of measles.

Strahlentherapie, Berlin

58: 193-372 (Feb. 17) 1937. Partial Index

*Roentgen Impairment of Parotid Gland. H.-H. Hermann.—p. 220.
Cure of Traumatic Aneurysm by Means of Radium Irradiation. L. Valach.—p. 230.
Cure of Woman with Abdominal Actinomycosis by Fractionated Roentgen Irradiation. C. Weysser.—p. 234.
Roentgen Irradiation of Ovaries. G. H. Schneider.—p. 238.
Experiences with Borderline Ray Therapy of Lupus Vulgaris. A. Beller.—p. 244.
*Rational Roentgenotherapy of Acute Nonsuppurating Inflammations of Spinal Cord. P. Del Buono.—p. 251.

Roentgen Impairment of Parotid Gland.—In a patient who had received roentgen treatment on account of a carcinoma of the hypopharynx, Hermann observed at necropsy that the parotid gland on the irradiated side showed changes that were much more severe than those on the nonirradiated side. The questions arose whether the severe lipomatous degeneration of the parotid gland, particularly on the irradiated side, could have been caused by the roentgen irradiation, whether intensive irradiations of the side of the face would always cause an impairment of the salivary glands, and what differences regarding impairment exist between fractional irradiation without protraction and protracted fractional irradiation of the parotid gland. The author decided to investigate these problems in experiments on rabbits. On the whole, he gained the impression that the ray sensitivity of the parotid gland is slight in comparison to that of other organs. He believes that roentgen irradiation does not play any part in the lipomatous degeneration of the parotid gland and states that the impairments, which become manifest during the irradiations in the form of dryness of the mouth, painful swelling and facial edema, are only temporary, not permanent. To the third question no final answer is possible as yet, because, with few exceptions, there seems to be no difference between the results of the two modes of irradiation. Accordingly, the author thinks that for economic reasons the merely fractional irradiation should be employed. Moreover, some of his own experiments indicate that fractional irradiation without protraction is less likely to cause changes than protracted fractional irradiation.

Roentgenotherapy of Inflammations of Spinal Cord.—Del Buono discusses roentgenotherapy in acute anterior poliomyelitis of children, in acute and chronic poliomyelitis of adults and in acute and chronic multiple sclerosis. He reaches the conclusion that roentgenotherapy is advisable in nonsuppurating, acute, inflammatory disorders of the spinal cord, because it produces better results than do other methods. The best results are obtained in acute anterior poliomyelitis of children, provided the treatment is begun early; that is, before the anatomic lesions of the spinal cord have become extensive. Favorable and lasting effects can be produced also in adults who have anterior poliomyelitis, acute multiple sclerosis or radiculomyelitis, but in these conditions also early beginning of the treatment is essential. In chronic multiple sclerosis, the effect of roentgenotherapy is slight. The improvement that may be noticeable after the first series of irradiations is not lasting and, after it disappears, the disease process advances unchecked. The technic of the irradiation is of minor importance, for favorable results have been obtained with various technics.

Zeitschrift f. Geburtshülfe u. Gynäkologie, Stuttgart

114: 125-236 (Feb. 9) 1937

*Clarification of Histogenesis of Brenner's Ovarian Tumors. H. O. Kleine.—p. 125.
Psammocarcinoma of Ovary. E. Werner.—p. 140.
*Cholin Esterase Content of Maternal Blood and of Blood of Umbilical Cord. E. Navratil.—p. 146.
Pathogenicity of Trichomonas Vaginalis. K. Streit.—p. 154.
Fetus Without Arms and Legs (Amelus): Summary of Observations on Amelia. G. Ilberg.—p. 174.
Forms and Genesis of Arhinencephalia and Cyclopia and Significance of Coupled Deformities. E. Redenz.—p. 185.

Histogenesis of Brenner's Ovarian Tumors.—Kleine sees the clinical significance of Brenner tumors in the fact that in spite of their "carcinoid" appearance they are always benign and that they are frequently mistaken for cancerous growths, particularly granulosa blastomas. He thinks that among the "cured" cases in the statistics on ovarian cancers there are probably many in which the so-called cancer had been a Brenner tumor. He emphasizes that Brenner tumors can be identified only histologically, not clinically. He differentiates two types: (1) solid Brenner tumors with and without the formation of microcysts and (2) Brenner tumors that are in the wall of large serous, but especially pseudomucinous, ovarian cystomas. Histologic examination reveals them as small complexes of tumor cells, frequently with irregular outlines, consisting of epithelium with round and spindle shaped nuclei. Generally the epithelium is undifferentiated, but it may be differentiated in pavement epithelium, serous epithelium and particularly mucous epithelium. The latter gives positive results when stained with mucicarmine and encloses microcysts in such a manner that the nuclei of the cylinder cells lining the cavity are on the side away from the lumen. This is an important differentiating characteristic from many folliculoid granulosa blastomas, in which the nuclei of the cell lining the cavity are turned toward the lumen. The author reports observations on five patients with Brenner tumors. In three cases the Brenner tumors concurred with pseudomucin cystomas, in one with serous cystoma and in the fifth with an epoophoron cyst. In the latter case, two islands of Brenner epithelium, which could be recognized only microscopically, were found where the hilus passes into the mesosalpinx. The author also states that the histologic examination of 166 ovarian teratomas never revealed the presence of nests of Brenner epithelium. There are three possibilities for the histogenesis of Brenner epithelium: (1) from the surface epithelium of the ovary, (2) from the peritoneal epithelium (tubes and ligaments) and (3) from Wolff's epithelium (hilus). These modes of histogenesis explain the development of Brenner tumors near the ovarian surface and in the region of the hilus of the ovary; also the concurrence of Brenner tumors with pseudomucin cystomas or serous cystomas and the occurrence of so-called Werth's epithelial nodules in the tubes and in the broad uterine ligament.

Cholin Esterase Content of Blood of Umbilical Cord.—Navratil points out that it has been proved that cholin esterase takes a special position among the esterases. Because this ferment regulates the formation as well as the cleavage of the acetylcholin that occurs in the tissues, it may be assumed that the significance of this ferment is closely connected with that of the highly active substrate. Since cholin esterase was first demonstrated in the cardiac muscle by Loewi and Navratil, a number of other investigators have studied its occurrence in the tissues and the blood. The author cites several methods by which the cholin esterase content can be determined and then reports his own studies. Immediately after the birth of the child, blood is withdrawn from the maternal arm vein and from the still pulsating umbilical cord. It was found that the maternal whole blood as well as its serum has a greater cholin esterase content than the umbilical blood and serum. The author admits that the process of delivery might have caused changes and thinks that control tests should be made before delivery or at its onset; that is, in the course of cesarean operations.

Wiener klinische Wochenschrift, Vienna

50: 275-362 (March 5) 1937. Partial Index

Psychotic Symptoms After Roentgen Irradiations of Cerebral Tumors. L. Benedek.—p. 278.
Energy Metabolism in Exophthalmic Goiter. H. Eppinger.—p. 289.
Simple Atrophy of Optic Nerve in Neurofibromatosis (Recklinghausen). A. Fuchs.—p. 291.
Efficacy of Iodized Salt in Prophylaxis of Goiter. V. Gegenbauer and K. Gottlieb.—p. 292.
*Newly Discovered Cerebropathologic Phenomenon. J. Gerstmann.—p. 294.
Question of Influence of Psychopathic Conditions in Crimes. K. Grosz.—p. 297.
Rôle of Hypophysis and of Hypothalamus in Diabetes Insipidus. O. Hirsch.—p. 299.

New Cerebropathologic Phenomenon.—Gerstmann describes a cerebral phenomenon that he observed in a woman, aged 33. The patient had headaches in the right upper parietal region, which area was also sensitive to pressure and percussion. Occasionally there were jacksonian attacks involving the contralateral (left) side of the body. These and other symptoms as well as the encephalographic observations and the course of the disease indicate a pathologic process in the retrocentral region of the cortex of the right cerebral hemisphere, chiefly the right upper parietal region. The extremely slow course suggests a benign tumor. The phenomenon to which the author wishes to call attention is the following: If black or colored glasses that are impervious to light are placed before the woman's open eyes and she is told to look in front of her without directing her eyes in any other direction, there develop rhythmic automatic movements in the anteroposterior direction. These movements cannot be voluntarily altered or suppressed by the woman. If she is standing, they involve the entire body; if she is sitting, only the trunk and head and, if the trunk is fixed, only the head. As soon as the patient closes her eyes, the movements cease, but, if she opens them again behind the impervious glasses, the movements reappear. The patient experiences the movements in the anterior direction as a forward traction that cannot be resisted; the backward movements the patient is unable to explain. Passive turning of the head in the direction contralateral to the cerebral focus intensifies the rhythmic oscillating movements and the patient utters an anxious cry in response to the intense sensation of falling toward the left. Passive movement of the head in the direction homolateral to the focus (that is, toward the right side) does not intensify the movements. Passive forward bending of the head and fixation in this position likewise intensify the rhythmic anteroposterior movements. Active movements of the head have similar effects. The body movements are accompanied by eye movements, but the latter take the opposite direction. Further studies proved that the movements can be elicited by placing before the eyes any uniformly colored (except white or gray) surface. However, as soon as fixation is effected by a definite outline or even by the prick of a pin in the otherwise uniform surface, the rhythmic body movements cease. Thus the movement phenomenon is elicited only if the eyes are open and fixation is impossible. This phenomenon gives rise to a number of questions that remain unexplained.

Nederlandsch Tijdschrift voor Geneeskunde, Haarlem

81: 857-988 (Feb. 27) 1937. Partial Index

*Gold Poisoning, Basophil Granulation and Eosinophilia. D. L. Hulst.—p. 868.
Treatment of Metasyphilis in the Tropics. A. J. G. Belinfante.—p. 876.
Studies on Gas Metabolism in Children. M. De Bruin.—p. 884.
*Disturbances in Cardiac Rhythm in Tumors of Lung. P. Formijne and P. J. Zuidema.—p. 891.

Gold Poisoning, Basophil Granulation and Eosinophilia.—Hulst says that from May 1935 to May 1936 all patients with primary chronic polyarthritis who came to the Leiden clinic for rheumatic disorders were treated with intragluteal injections of a gold preparation. This gave him an opportunity to observe various forms of gold poisoning. The differences in the development and the occasionally rather sudden onset induced him to search for an objective sign that would indicate the approach of an intoxication. Since the literature contained reports about basophilic granulation of the erythrocytes after gold treatment, he investigated this manifestation. Of the fifty-one patients who had been treated with the gold preparation, only two never had the basophilic granulation of the erythrocytes. Of the forty-one who were examined before the gold injections were given, seven were found to have the basophilic granulation. Of the thirty-four patients who did not have the basophilic granulation, thirty-two developed it after the gold treatment had been continued for a shorter or longer period. The basophilic granulation formerly was regarded as a sign of degeneration, but recent observations seem to indicate that it is a regenerative process. The author cites instances in which chronic rheumatism occurred in patients who also had hypochromic anemia. The anemia proved refractory to iron and various other treatments but improved in the course of the gold therapy. The author gained the impression that the gold stimulates blood formation and causes the development of the basophilic granulation. He discusses the connection between gold therapy and eosinophilia. Many cases of gold poisoning were accompanied or preceded by an increase in the number of eosinophilic leukocytes. This increase subsides again as the signs of intoxication disappear. If eosinophilia appears in the course of gold therapy, it is advisable to interrupt the gold therapy until all signs of intoxication and the eosinophilia have disappeared.

Disturbances in Cardiac Rhythm in Tumors of Lung.—Formijne and Zuidema report the histories of nine patients with pulmonary carcinoma in whom they observed disturbances in the cardiac rhythm. The arrhythmias were all of the paroxysmal type. Fibrillation appears to be the most important of these disturbances of the cardiac rhythm. The authors observed it in four of their patients. In one patient cardiac flutter was observed and in another tachysystole. In the remaining three cases the character of the arrhythmia could not be definitely identified. In order to give information about the frequency of paroxysmal arrhythmia in patients with pulmonary tumors, the authors point out that, during the period in which they observed the nine pulmonary tumors with paroxysmal arrhythmia, they found thirty-three pulmonary tumors without it. They think that the paroxysmal development of the fibrillation and flutter may be regarded as characteristic for pulmonary tumors. In most of the cases the necropsy revealed that the neoplasm had invaded the pericardium or the musculature of the auricles.

Finska Läkaresällskapets Handlingar, Helsingfors

80: 1-96 (Jan.) 1937

Considerations on Hygienic Conditions in Breweries and Soft Drink Factories in Finland. C. Nyberg.—p. 25.
*Causes of Death Among Diabetic Patients. B. von Bonsdorff.—p. 33.
*Anemia and Dysphagia or Plummer-Vinson's Syndrome. C. Schauman.—p. 61.
Familial Congenital Fistula of Ear: Case. S. Söderlund.—p. 71.
Occurrence of Subcutaneous Lymph Nodes in Angle of Jaw and Anterior Jugular Vein in Domestic Cat. N. Westerholm and E. Lindholm.—p. 79.

Causes of Death Among Diabetic Patients.—Von Bonsdorff says that, from 1930 to 1936, 308 diabetic patients (117 men, 191 women) were treated in the Maria Hospital in Helsingfors, most of them several times; 110 were less than

50 years of age and 198 were more than 50. Of these, 120 have died, at an average age of 56.5 years; 50.8 per cent from arteriosclerotic cardiopathies and cerebral circulatory disturbances together with gangrene in the lower extremities, 15.8 per cent from infectious diseases, 14.3 per cent from diabetic coma, 10 per cent from tuberculosis and 5.8 per cent from malignant tumors. At least sixty-five cases of coma (in forty-five patients) were treated; of the seventeen deaths in this group, some might have been prevented if the cases had not been admitted too late because of mistaken diagnosis.

Anemia and Dysphagia or Plummer-Vinson's Syndrome.—Schauman reports three typical cases of the disease. A fourth case presented the characteristic clinical picture of Plummer-Vinson's syndrome and no signs of cancer, but the patient's death five months after discharge was perhaps due to cancer of the stomach. The possibility of a connection between the Plummer-Vinson syndrome and the cancer is discussed.

Hospitalstidende, Copenhagen

80: 85-112 (Jan. 26) 1937

Creatine-Creatinine Metabolism in Patients with Progressive Muscular Dystrophia After Treatment with Aminoacetic Acid. T. Espersen and A. Thomsen.—p. 85.

*Histology of Neurinomas. H. Lindenov.—p. 102.

Calcifications in Veins. A. Eldahl.—p. 108.

Histology of Neurinomas.—Lindenov says that in his case of intraperitoneal neurinoma in a man, aged 45, an accidental observation at necropsy, the reticular parts of the tissue containing nuclei resembled the form of neurinoma tissue described by Antoni as type B, and the diagnosis was further supported by the content of colloid masses. While the capsule and the neurinomatous tissue were not clearly separate, the former appeared so definitely as a capsule that the fibrous tissue was regarded as drawn into the proliferation and not as a constituent of the tumor, which is ascribed to germs broken off in fetal life from some preliminary stage of the splenic plexus.

80: 113-140 (Feb. 2) 1937

*Formol-Gel Reaction and Other Globulin Reactions. J. Bing.—p. 113.

Neurocomplications in Epidemic Parotitis: Latent Parotidean Meningitis. K. G. Fuhrmann.—p. 128.

Cevitamic Acid and Its Keeping Qualities in Aqueous Solution with Presence of Sodium Chloride: Preliminary Report. F. Westergaard. p. 134.

Formol-Gel Reaction and Other Globulin Reactions.—Bing performs the formol-gel reaction by adding two drops of solution of formaldehyde to 1 cc. of serum allowed to stand at laboratory temperature for three hours. He finds the test positive in disturbances with considerable hyperglobulinemia, in Denmark primarily occurring in cases of multiple myelomas or chronic infectious disease. In his material it was positive in fourteen cases of myeloma, in several peculiar cases of sepsis lenta, and in some instances of specific infections and hepatic disorders. There were rapidly positive formol-gel reaction and considerable hyperglobulinemia with resulting hyperproteinemia in one case of lymphatic leukemia and one of Schönlein-Henoch's purpura, diseases in which these changes had not previously been found. In 3,697 Danish serums only about 2 per cent gave a positive reaction. Other globulin reactions are briefly described.

80: 141-168 (Feb. 9) 1937

*Investigations on Variations in Permeability of Red Blood Corpuscles in Man, with Especial Regard to Relations in Pernicious Anemia. O. Bang and S. L. Ørskov.—p. 141.

Macrocytic Anemia in Cancer of Pylorus and Laënnec's Hepatic Cirrhosis: Case. Helga Bentzen.—p. 157.

*Contribution to Question of Relation of Heredity, in Congenital Stenosis of Pylorus. B. Fabricius and P. Vogt-Møller.—p. 166.

Variations in Permeability of Red Blood Corpuscles.—Bang and Ørskov express the permeability of the red blood corpuscles to dextrose by the minute constant computed according to Pick's law. They state that increase of the dextrose concentration in the suspension fluid from 0.58 per cent to 1.16 per cent reduces the permeability two and one-half times. Their tests were carried out after the blood had been allowed to stand for four hours or more. In twelve normal persons the average minute constant was 0.27. This was also the average value in nine cases of anemia due to hemorrhage, the maximum being 0.39, but in four cases of untreated pernicious anemia the minute constant varied from 0.42 to 1.14 and the highest and the lowest values occurred in cases with about the same degree of anemia. In two out of six other cases of pernicious anemia tested some time after the start of treatment the minute constant was normal; in four it varied from 0.46 to 0.81; here also there was no clear parallel between the degree of anemia and the permeability. During treatment, normal values were attained while the anemia was still marked. Investigations in patients with other disturbances revealed a minute constant under 0.40, and usually normal, in most cases. Normal values seen in two cases of leukemia are considered especially interesting. In a case of extensive osteitis deformans and in one of diabetes the minute constant was more than 0.40. Tests of the permeability to malonamid and tiourin substance gave results similar to those with dextrose. The permeability to glycerin was normal in pernicious anemia and not affected by specific treatment.

Heredity in Congenital Stenosis of Pylorus.—Fabricius and Vogt-Møller state that, while congenital pyloric stenosis is mentioned in the literature as a familial disorder, apparently no cases have been reported corresponding to the four reported by them in siblings who are a mother's entire family but the oldest of whom is the half sister of the other three.

80: 169-196 (Feb. 16) 1937

*Treatment of Encephalitis. P. Levison.—p. 169.

*Posttraumatic Arteriospasms in Fingers. O. Mikkelsen.—p. 177.

Experimental Investigations on Gastrogenic Anemias and Accompanying Changes in Avitaminosis: VII. On Changes Observed in Swine After Extirpation of Stomach. S. Petri, D. Bøggild, A. Søeborg-Ohlsen and O. Wanscher.—p. 185.

Hematuria After Tonsillectomy and Adenotomy. H. Rasmussen.—p. 191.

Treatment of Encephalitis.—Levison says that he has attained good results in chronic epidemic encephalitis and other chronic infectious diseases of the central nervous system of unknown cause, also in multiple sclerosis by a combination of arsenic and bismuth preparations which, although not really specific, he terms "specific treatment," together with omnadin (or omnol), perhaps metallosal, and diaphoretic treatment. For relief of symptoms the usual agents have been employed —phenylethylbarbituric acid, scopolamine, atropine, coniine and so on, and finally orthopedic and in rare cases surgical treatment. The treatment is protracted and to be continued after the symptoms have disappeared. In his opinion an unfavorable prognosis is often assigned to chronic epidemic encephalitis because of the grave, rigid and parkinsonian cases, which however are not numerous. On admission of 122 cases grave parkinsonism was found in two, moderately grave in five and mild in two; i. e., in 5.7 per cent. The many mild cases, also those with slight parkinsonian syndrome, the neurasthenia-like forms and even the marked hyperkinetic forms may have an excellent prognosis.

Posttraumatic Arteriospasms in Fingers.—Mikkelsen asserts that in a number of cases diagnosed as traumatic neuroses there is in reality a posttraumatic arteriospasm or other disorder in the sympathetic nervous system. In arteriospasms the predominating subjective symptoms are sensation of cold and pain from cold; there are also pain on movement, hypalgesia and trophic disturbances. With arteriospasm limited to one finger he is reluctant to undertake extirpation of the third cervical ganglion and for the last year and a half has treated such arteriospasms conservatively by bandaging the finger for a long time. Complete recovery occurred in the six patients treated with finger splints and arm slings for from two weeks to three months. Two patients with arteriospasms in the whole hand after a Colles fracture were also successfully treated by bandaging. The hyperalgesic form, with paresthesias, appears only in the fingers and only after grave lesions. Half a year ago the author began to inject 1 per cent procaine hydrochloride-epinephrine in the finger or finger stump. Fourteen patients have now been treated by this method, with complete recovery in eight, almost complete recovery in five and no change in one. He emphasizes that the injection, which is painful, must be made in the tender part of the finger or finger stump and in the entire cyanotic field.